

LBT-V82/V102/V102CD/V202/V202CD

SERVICE MANUAL

US Model
LBT-V102

Discard LBT-V82/V102/V102CD/V202/V202CD
Service Manual (No. 9-955-806-11) previously
issued. This Service Manual contains it.

Canadian Model
LBT-V102CD

AEP Model
LBT-V82/V102/V202

These systems are composed of following models.
As for the service manual, it is issued for each
component model, then, please refer to it.

UK Model
LBT-V102/V102CD/V202/V202CD

COMPONENT MODEL NAME FOR THESE SYSTEM

DECK RECEIVER	• HMK-V82/V102 HST-V102/V202
TURNTABLE	• PS-LX43P
CD PLAYER	• CDP-M18
SPEAKER SYSTEM (LBT-V82/V102/V102CD) (LBT-V202/V202CD) (LBT-V102 : US Model) (LBT-V102CD : CND Model)	• SS-A102 • SS-A202 • SS-D201 • SS-D102

CND : Canadian

PARTS LIST

Part No.	Description	Remarks	Part No.	Description	Remarks
1-465-358-11	(LBT-V102 : US, LBT-V102CD : CND, LBT-V202/V202CD)....COMMANDER REMOTE (RM-S130)		*4-935-319-01	(HMK-V82, HMK-V102 : AEP/UK, LBT-V102CD) CUSHION (LOWER)	
1-501-374-11	ANTENNA, LOOP		*4-935-383-01	(LBT-V102 : US, LBT-V102CD : CND, LBT-V202 : AE, LBT-V202CD)....CUSHION	
2-181-754-01	(LBT-V102 : US, LBT-V202/V202CD)....COVER, BATTERY		*4-935-371-01	(LBT-V120 : US for : HST. PS.)....INDIVIDUAL, CARTON	
3-701-806-00	ADAPTOR, 45		*4-937-361-01	(LBT-V120 : US for : HST. PS. SS)....INDIVIDUAL, CARTON	
3-751-030-11	(ENGLISH/F/E/P)....MANUAL, INSTRUCTION (LBT-V82)		*4-935-375-01	(HMK-V102CD : UK)....INDIVIDUAL, CARTON	
3-751-030-61	(D/NL/S/I)....MANUAL, INSTRUCTION (LBT-V82)		*4-935-376-01	(HMK-V102 : AEP)....INDIVIDUAL, CARTON	
3-751-550-21	(ENGLISH)....MANUAL, INSTRUCTION (LBT-V102 : US)		*4-935-377-01	(HMK-V102 : UK)....INDIVIDUAL, CARTON	
3-751-550-31	(ENGLISH/F)....MANUAL, INSTRUCTION (LBT-V102CD : CND)		*4-935-380-01	(LBT-V202 : AEP for : HST)	
3-751-142-11	(ENGLISH/F/E/P)....MANUAL, INSTRUCTION (LBT-V102 : AEP)		*4-935-381-01	(LBT-V202 : AEP for : HST. SP)....INDIVIDUAL, CARTON	
3-751-142-41	(D/NL/S/I)....MANUAL, INSTRUCTION (LBT-V102 : AEP)		*4-935-382-01	(LBT-V202CD : UK)....INDIVIDUAL, CARTON	
3-751-142-51	(ENGLISH)....MANUAL, INSTRUCTION (LBT-V102 : UK)		*4-934-885-01	(LBT-V202 : UK)....INDIVIDUAL, CARTON	
3-751-343-11	(ENGLISH/F/E/P)....MANUAL, INSTRUCTION (LBT-V202 : AEP)		4-896-384-01	(PS-LX43P)....CUSHION, R	
3-751-343-41	(D/NL/S/I)....MANUAL, INSTRUCTION (LBT-V202 : AEP)		4-896-385-01	(PS-LX43P)....CUSHION, L	
3-751-343-51	(ENGLISH)....MANUAL, INSTRUCTION (LBT-V202/V202CD : UK)		1-559-533-11	(CDP-M18)....CORD, CONNECTION	
4-921-934-01	SHEET, PROTECTION		4-927-355-01	(CDP-M18)....CUSHION	
*4-935-318-01	(HMK-V82, HMK-V102 : AEP/UK, LBT-V102CD) CUSHION (UPPER)		4-927-354-11	(CDP-M18)....INDIVIDUAL, CARTON	

NOTE:

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

F : FRENCH
E : SPANISH
P : PORTUGUESE
I : ITALIAN
D : GERMAN
NL : DUTCH
S : SWEDISH

COMPACT Hi-Fi STEREO SYSTEM
SONY®

Sony Corporation
Audio Group

9-955-806-12

English
90F0483-1
Printed in Japan
© 1990. 6

Published by Customer Relations and Service Group

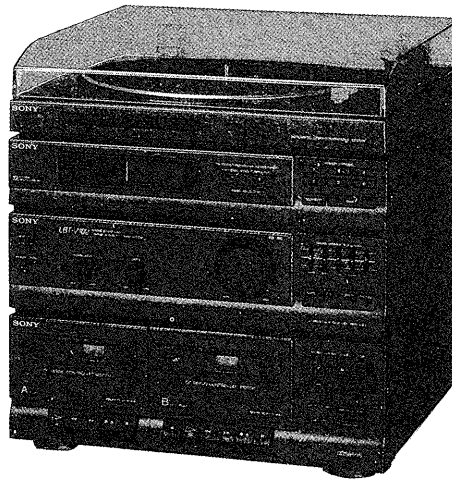
HMK-V82/V102 HST-V102/V202

SERVICE MANUAL

US Model
Canadian Model
HST-V102

AEP Model
HMK-V82/V102
HST-V202

UK Model
HMK-V102
HST-V202



- **HMK-V82/V102** are the **STEREO DECK RECEIVER** in **LBT-V82/V102**.
- **HST-V102/V202** are the **STEREO DECK RECEIVER** in **LBT-V102/V102CD/V202**.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	XO-D101S	Page
Tape Transport Mechanism Type	TCM-YMW47-97	25
	TCM-180VW-N1	28

- After confirming the form of mechanism, look at a part in the Exploded views.

SPECIFICATIONS

Tuner	
System	FM stereo FM/AM superheterodyne tuner
FM tuner section	
Tuning range	87.5 to 108 MHz
Antenna	75 ohms unbalanced 300 ohms balanced
Intermediate frequency	10.7 MHz
MW/LW tuner section (AEP, UK model)	
Tuning range	MW: 522 to 1,611 kHz (Italian model) 531 to 1,602 kHz (other models) LW: 144 to 288 kHz (Italian model) 153 to 279 kHz (other models)
AM Tuner section (US, Canadian model)	
Tuning range	530 to 1,710kHz
Antenna	AM loop antenna External antenna terminal
Intermediate frequency	450 kHz

Cassette deck	
Recording system	4-track 2-channel stereo
Frequency response	DOLBY NR OFF With Type II cassette (Sony UX-S) 40 Hz to 14 kHz (± 3 dB) With Type I cassette (Sony HF-S) 40 Hz to 13 kHz (± 3 dB)
Wow and flutter	$\pm 0.2\%$ (DIN)

Turntable (HMK-V82/V102)

Platter	30 cm
Tonearm type	Dynamically balanced
Cartridge type	Moving magnet type
Stylus	Sony ND-155G (0.6 mil diamond)

Amplifier

Continuous RMS power output	20 W + 20 W (6 ohms, at 1 kHz, 10% THD)
DIN power output	15 W + 15 W (6 ohms, at 1 kHz)
Music power output	35 W + 35 W (6 ohms)

Input	Jack type	Sensitivity	Impedance
CD IN	Phono	200mV	47 kohms
PHONO IN	Phono	2mV	47 kohms

(HST-V102/V202)

— continued on next page —

COMPACT HI-FISTEREO SYSTEM
SONY®

Output	Jack type	Voltage	Impedance
SURROUND SPEAKER	Phono	Accepts speakers of 8 to 16 ohms	
HEADPHONES	Stereophone	Accepts headphones of 8 ohms or more	

Frequency response CD: 15 Hz to 50 kHz $\begin{smallmatrix} +0 \\ -3 \end{smallmatrix}$ dB

General

Power requirements 120V AC, 60Hz (US Canadian model)
220V AC, 50Hz (AEP model)
240V AC, 50Hz (UK model)

Power consumption 60W (US, AEP model)
110W (UK model)

Weight Approx. 7kg (HMK-V82/V102)
Approx. 6kg (HST-V102/V202)

Dimensions Approx. 355×377×325 mm
(HMK-V82/V102)
Approx. 355×290×325 mm
(HST-V102/V202)
(w/h/d, including projections)

Design and specifications subject to change without notice.

Note

This appliance conforms with EEC Directives 87/308/EEC
regarding interference suppression.

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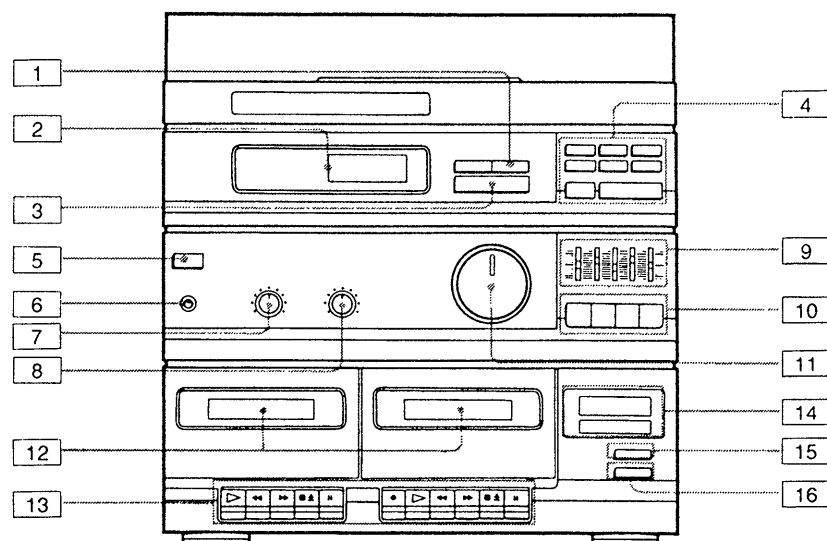
SUPPLEMENT-1

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED
LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS
AND IN THE PARTS LIST ARE CRITICAL TO SAFE
OPERATION. REPLACE THESE COMPONENTS WITH
SONY PARTS WHOSE PART NUMBERS APPEAR AS
SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUB-
LISHED BY SONY.

SECTION 1 GENERAL

1-1. LOCATION OF CONTROLS



Tuner

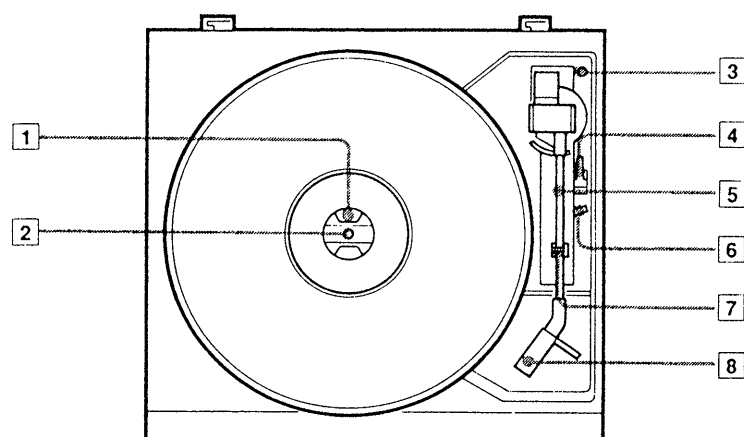
- 1 TUNING buttons
- 2 Band/frequency display
- 3 BAND SELECTOR
- 4 Buttons for storing station frequencies

Amplifier

- 5 POWER switch
- 6 HEADPHONES jack
- 7 SURROUND control
- 8 DBFB (dynamic bass feedback) control
- 9 GRAPHIC EQUALIZER controls
- 10 Function selectors and indicators
- 11 VOLUME control

Cassette deck

- 12 Cassette holders
- 13 Tape operation buttons
 - ◀◀ Leftward fast winding
 - ▶▶ Rightward fast winding
 - ▶ Forward play
 - ▲ Stop/eject
 - || Pause
 - Record
- 14 OPERATING INDICATOR
- 15 TAPE SELECTOR
- 16 DOLBY NR (noise reduction) switch



Turntable (HMK-V82/V102)

- 1 45-rpm adaptor
- 2 Centre spindle
- 3 Transit screw
- 4 Cueing lever
- 5 Tonearm
- 6 Speed selector
- 7 Armrest
- 8 Cartridge

SECTION 2

ADJUSTMENTS • Refer to page 6 for Adjustment Location.

2-1. MECHANICAL ADJUSTMENTS

PRECAUTION

- Clean the following parts with a denatured alcohol-moistened swab :

record/playback heads	pinch rollers
erase heads	rubber belts
capstan	idlers
- Demagnetize the record/playback head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	30—70g·cm (0.42—0.97oz·inch)
FWD Back tension	CQ-102C	1.5—5.5g·cm (0.020—0.076oz·inch)
FF. REW	CQ-201B	63g·cm or more (0.87oz·inch)

2-2. ELECTRICAL ADJUSTMENTS

0dB = 0.775V (AF)
 0dB = 0.1μV (RF)

CASSETTE DECK SECTION

- Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.
- The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
- The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch : OFF
 TAPE SELECT switch : TYPE I

Type	Signal	Used for
P-4-A100	6.3kHz, -10dB	Azimuth Adjustment
P-4-L300	315Hz, 0dB	PB Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

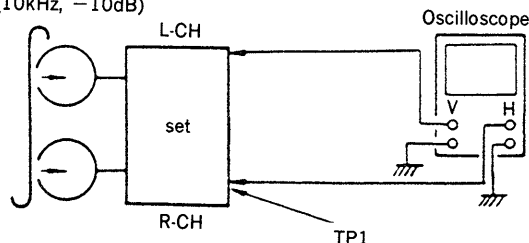
Record/Playback Head Azimuth Adjustment

Note: Perform this adjustments for both decks.

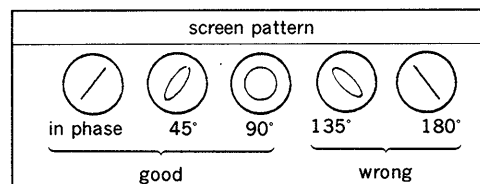
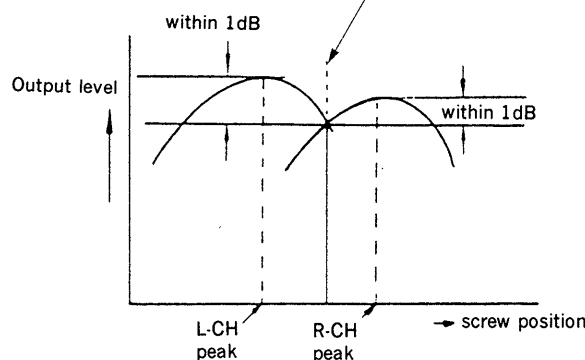
Procedure :

- Mode : FWD playback

test tape
 P-4-A100
 (10kHz, -10dB)

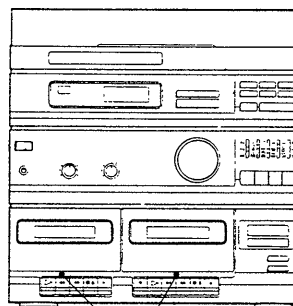


- Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



- After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location :



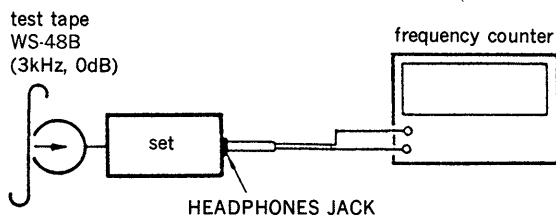
Adjustment screw
 REC/PB head (deck B) or
 PB head (deck A)



Tape Speed Adjustment

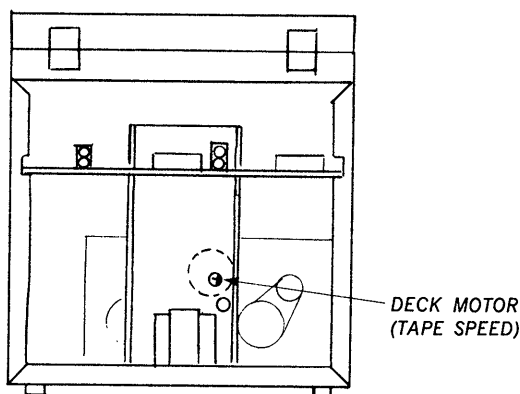
Procedure :

Mode : playback



1. Playback WS-48B (Tape center portion) in FWD mode.
2. Adjustment the deck A, deck B so that at this time the frequency counter reads $3000 \pm 30\text{Hz}$.
Frequency difference between the beginning and the end of the tape should be within 1.5%.

Adjustment Location : DECK MOTOR (BOTTOM SIDE)

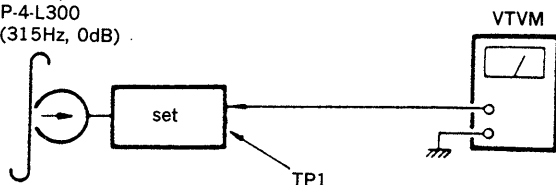


Playback Level Adjustment

Procedure :

Mode : FWD playback

test tape
P-4-L300
(315Hz, 0dB)



DECK-A side RV301 (L-CH), RV351 (R-CH)
DECK-B side RV302 (L-CH), RV352 (R-CH)
so that the limits below are satisfied.

Adjustable limits :

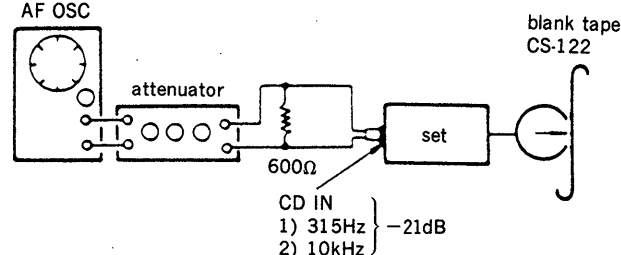
TP1 level : -1.7dB to -3.7dB

level difference between the channels : within 1.0dB
(See page 6 for Adjustment Location)

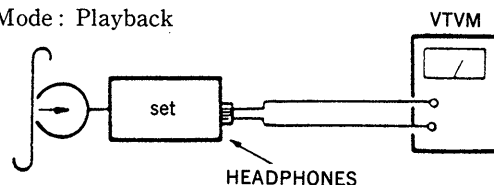
Record BIAS Current Adjustment

Procedure :

1. Mode : record



2. Mode : Playback



- (1) Supply a -21dB signal (315Hz) from the CD IN. Adjust the VOLUME control so that a -30dB signal is output to the headphones terminal.
- (2) Insert alignment tape CS-122 into deck B and put the set into the REC mode.
- (3) Adjust the signal frequency to 10kHz.
- (4) Put the set into the PB mode and adjust RV401 (L CH) and RV451 (R CH) in the REC mode so that the level difference between 315Hz and 10kHz is within $0 \pm 0.5\text{dB}$.
- (5) Repeatedly put the set into the REC and PB modes two to four times and adjust the bias.

Adjustable limits :

The HEADPHONES level of 10kHz signal relative to that of 315Hz : $0\text{dB} \pm 0.5\text{dB}$

(See page 6 for Adjustment Location)

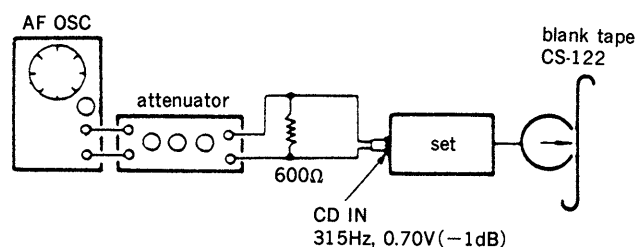
Record Level Adjustment

Setting :

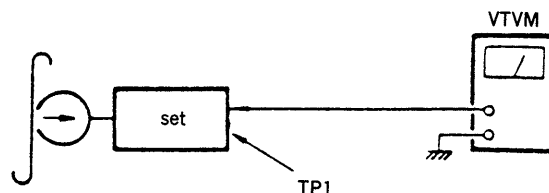
TAPE SELECT : TYPE I

Procedure :

1. Mode : record



2. Mode : playback



• Refer to page 18 for TEST-MODE BY DISPLAY-CONTROL MICROCOMPUTER. (IC201)

- (1) Supply a -22.7dB signal (315Hz) from the CD terminal.
- (2) Insert alignment tape CS-122 into deck B and record the signal. Then playback the recorded portion of the tape and adjust RV303 (L-CH) and RV353 (R-CH) so that the -25.0dB signal output is obtained at TP1 terminal.

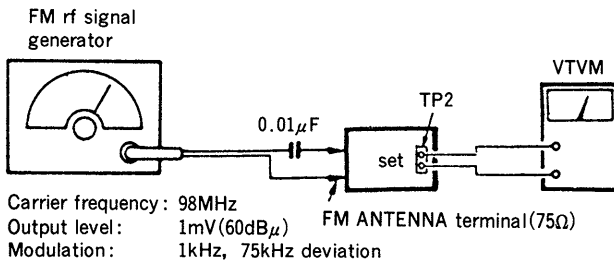
Adjustable limits :

HEADPHONES level : $-25.0\text{dB} + 0.5\text{dB}$

TUNER SECTION

As FM FRONT-END FE1 is difficult to repair if faulty, replace it with new one.

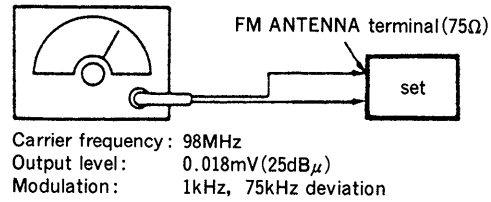
FM NULL Adjustment



Procedure :

1. Tune the set to 98MHz
2. Adjust T51 for 0V reading on the VTVM.

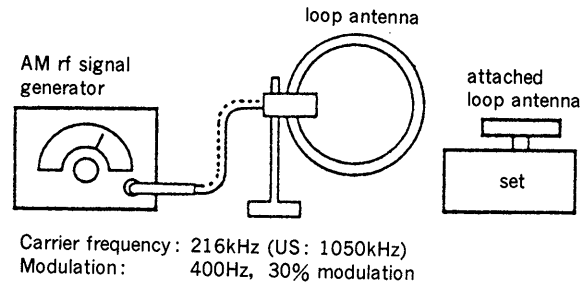
FM Tuned Level Adjustment



Procedure :

1. Tune the set to 98MHz.
2. Adjust RV72 to the point where "TUNED" sign on LCD201 just turns light.

• **AM SECTION**



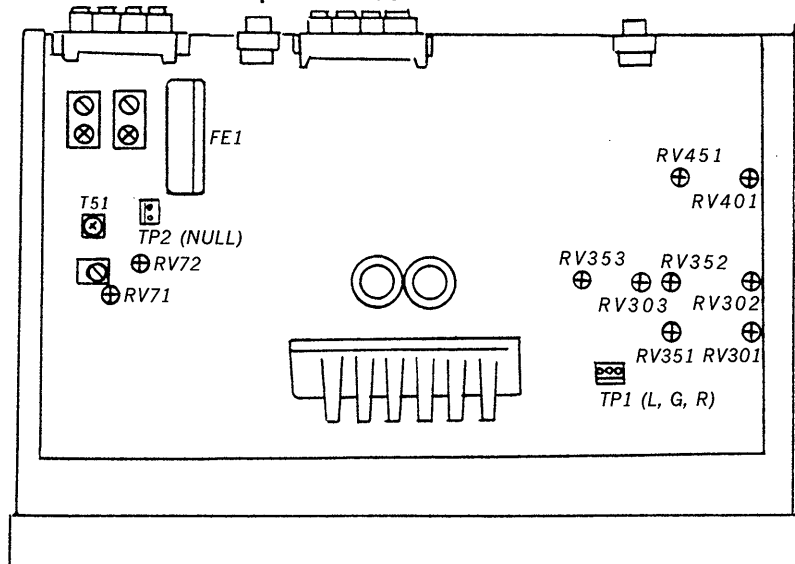
AM Tuned Level Adjustment

• **LW BAND** (US Canadian : MW BAND)

1. Set loop antenna input level to 2.5mV (68dBμ/m) and tune the set to the signal.
2. Tune the set to 216kHz. (US Canadian : 1050kHz)
3. Adjust RV71 to the point where "TUNED" sign on LCD201 just turns light.

Adjustment Location :

MAIN BOARD—Component Side—



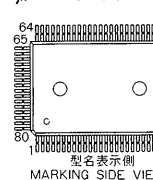
FRONT SIDE

SECTION 3 DIAGRAMS

3-1. SEMICONDUCTOR LEAD LAYOUTS

DTA114ES
DTA124ES
DTC114ES
DTC144ES
DTC124ES
2SA1317
2SA1175
2SC2724
2SC2603
2SC3622A

μPD75308GF



SEL2210S-C
SEL4B14A-D
SEL2410E-D
SEL2810A-C



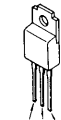
2SK246GR3



2SC3112
2SC1815
2SC945

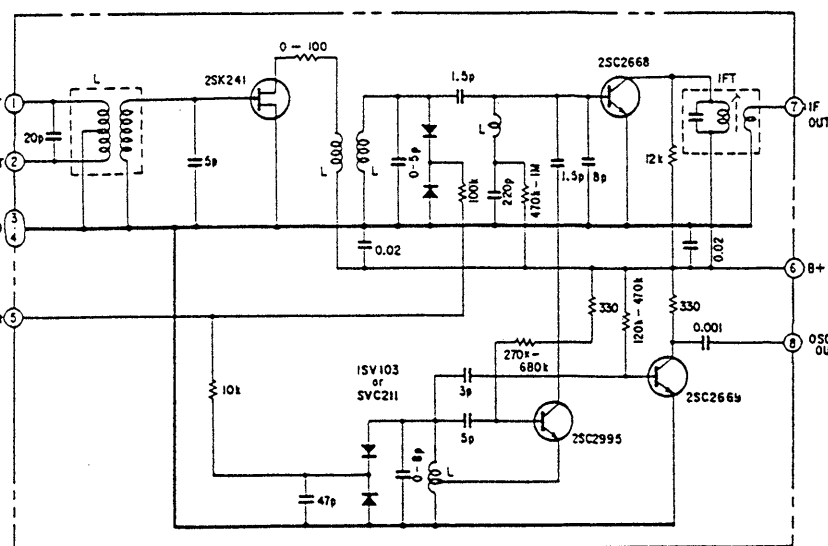


2SD1761
2SB1187

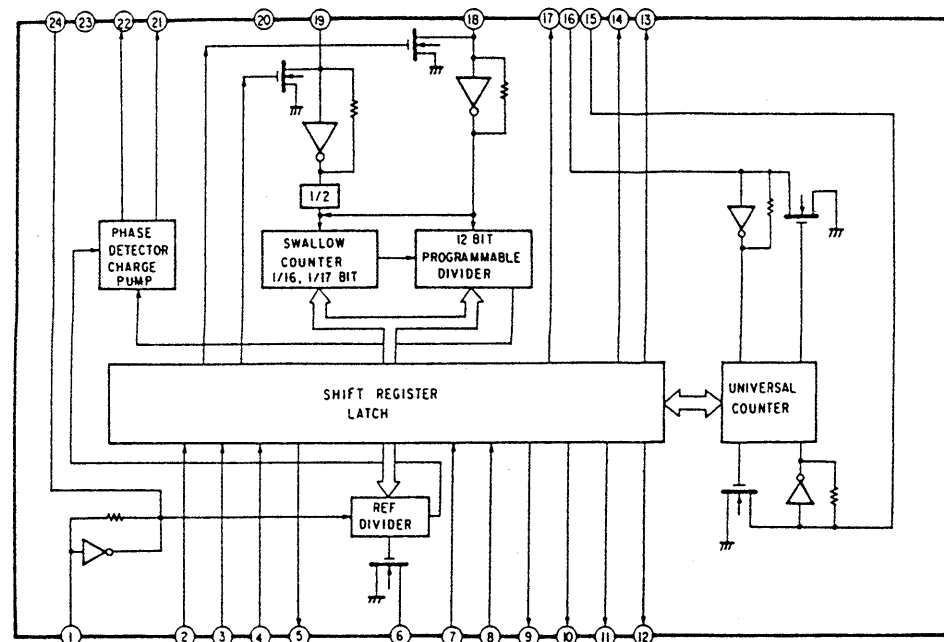


3-2. IC BLOCK DIAGRAMS

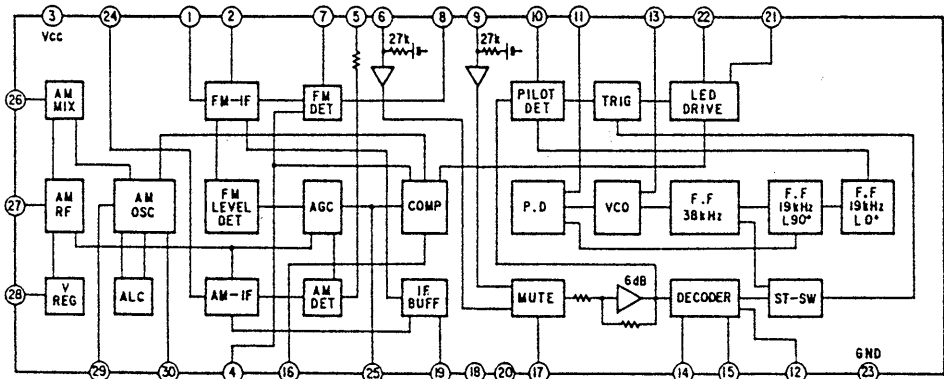
- FM FRONT-END FE1



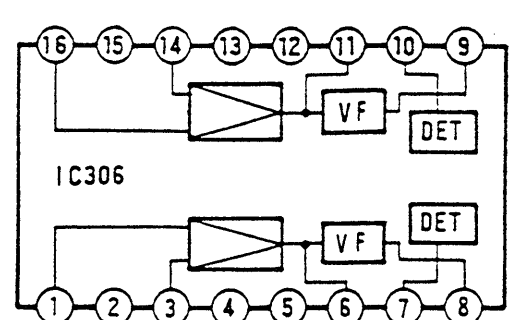
● IC101 LC7218



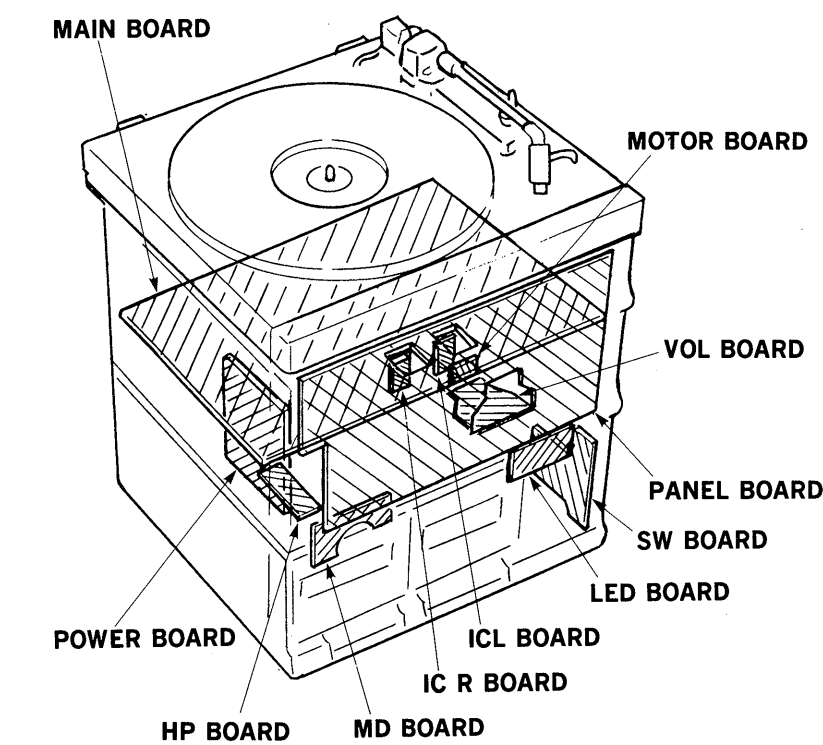
• IC51 LA1851N



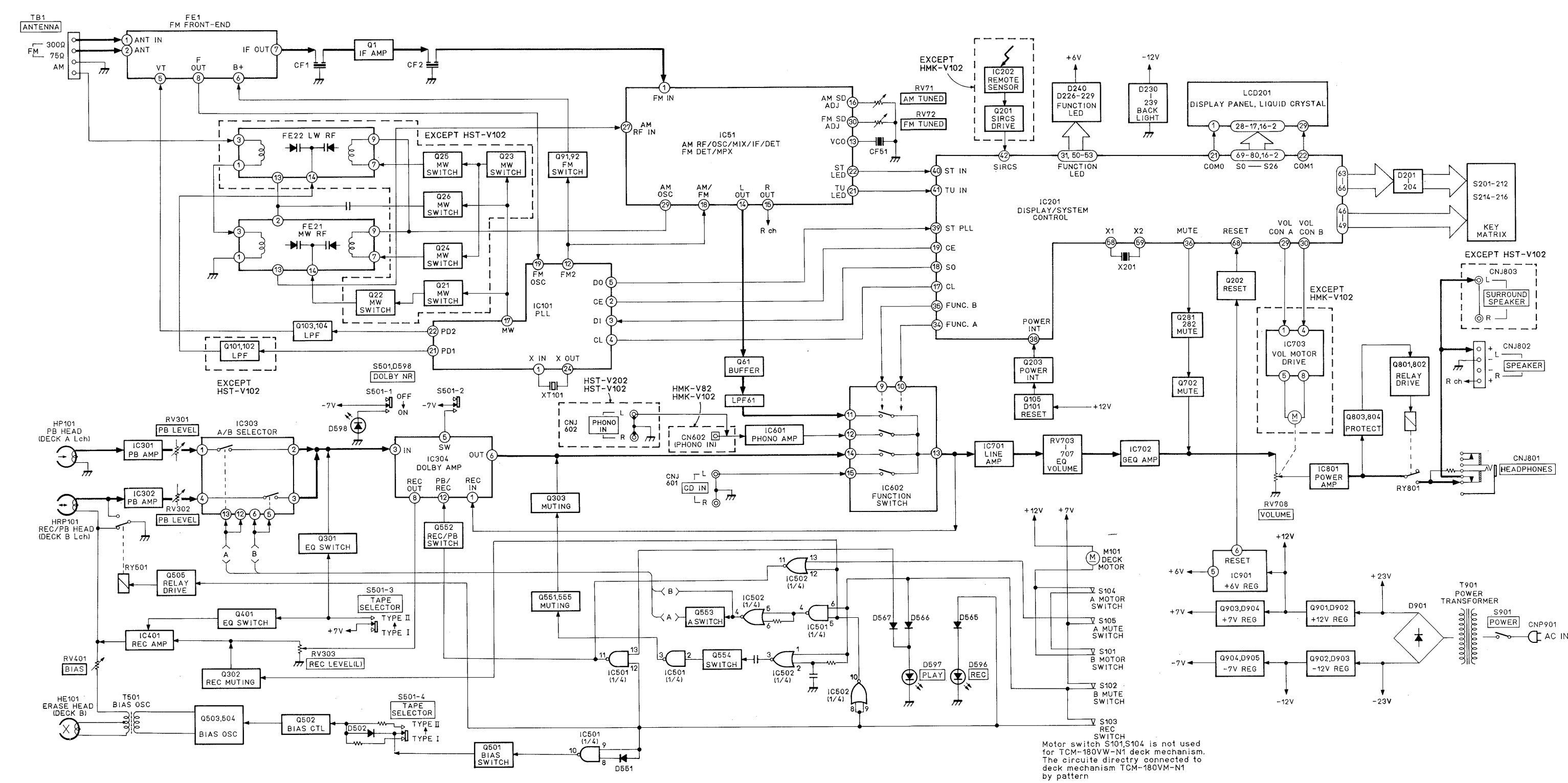
- IC304 CXA1100



CIRCUIT BOARDS LOCATION



3-3. BLOCK DIAGRAM



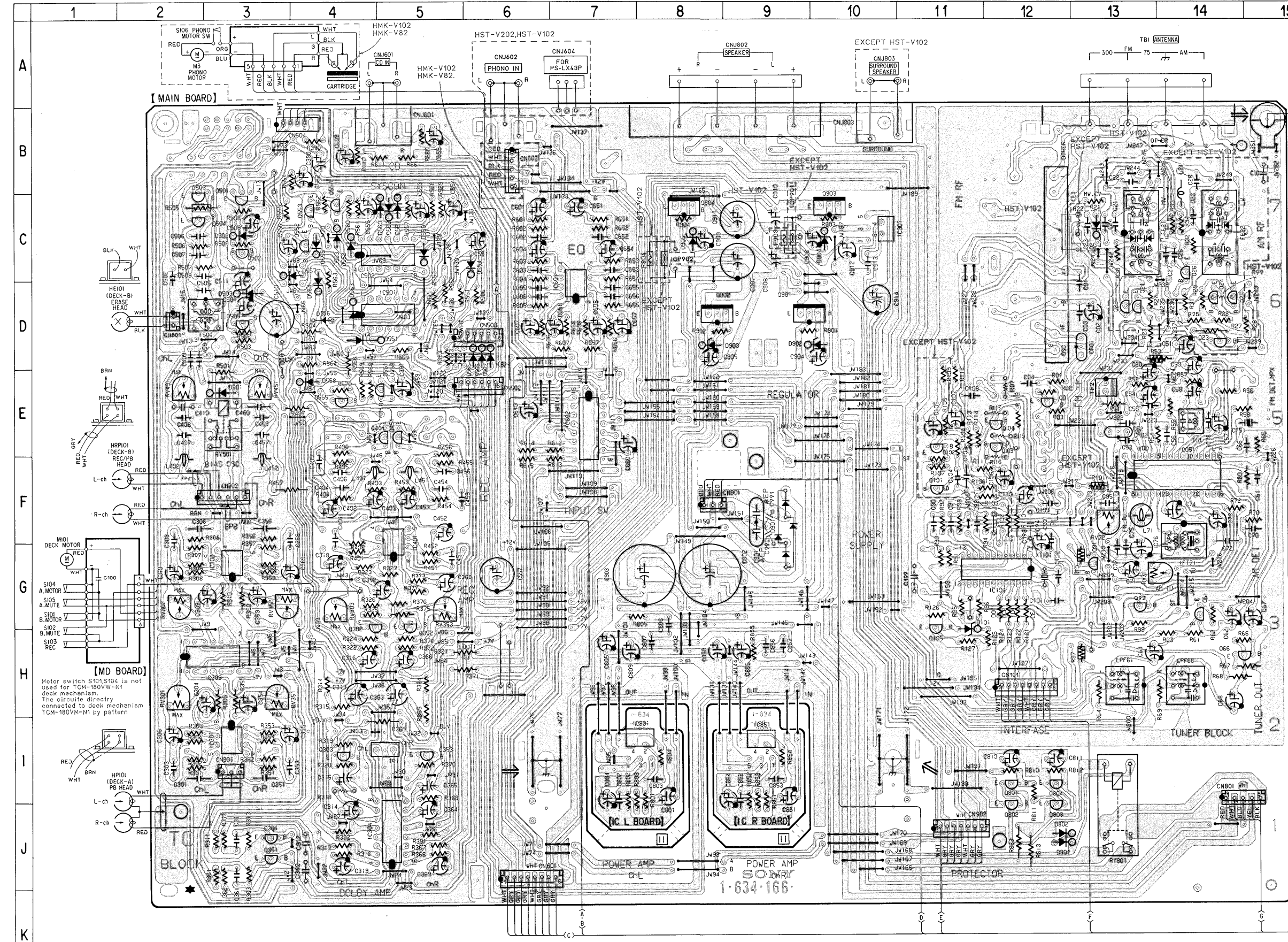
Motor switch S101,S104 is not used for TCM-180VW-N1 deck mechanism. The circuitry directly connected to deck mechanism TCM-180VM-N1 by pattern

• Semiconductor Location

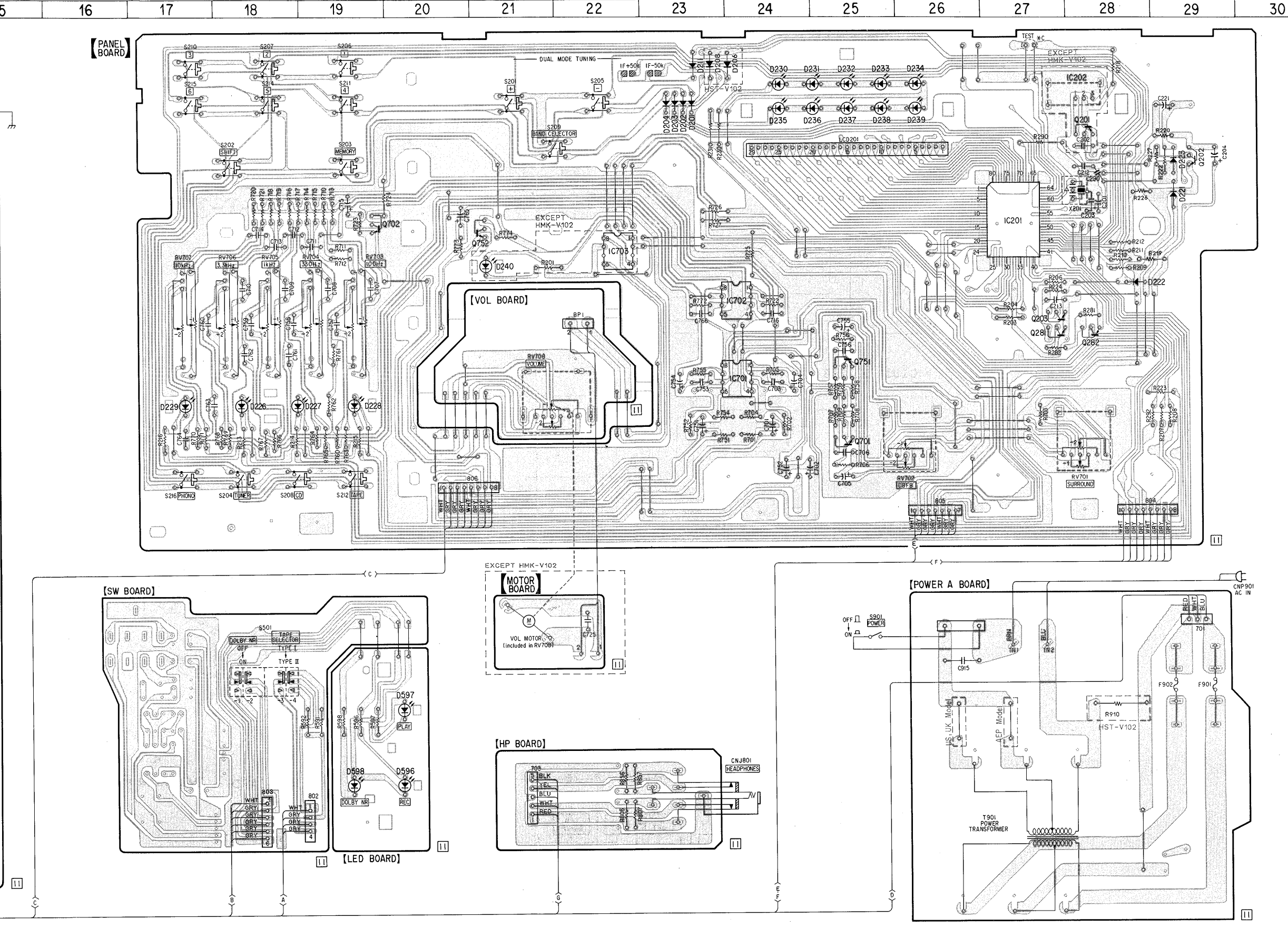
Ref. No.	Location	Ref. No.	Location
D21	C-13	IC304	J-5
D101	H-11	IC401	G-5
D201	B-23	IC501	D-5
D202	B-23	IC502	C-4
D203	B-23	IC601	D-7
D204	B-23	IC602	E-7
D206	A-24	IC701	E-24
D208	A-23	IC702	D-24
D211	A-23	IC703	C-22
D221	C-29	IC801	I-8
D222	D-28	IC851	I-9
D223	D-29	IC901	C-10
D226	E-18		
D227	E-19	Q01	E-12
D228	E-19	Q21	D-13
D229	E-17	Q22	D-13
D230	A-24	Q23	D-14
D231	A-25	Q24	D-14
D232	A-25	Q25	D-14
D233	A-25	Q26	C-14
D234	A-26	Q61	G-14
D235	A-24	Q66	H-14
D236	B-25	Q91	G-13
D237	B-25	Q92	G-13
D238	B-25	Q101	F-11
D239	B-26	Q102	E-11
D240	C-21	Q103	E-12
D501	E-3	Q104	E-12
D502	C-3	Q105	H-11
D503	D-3	Q201	B-28
D551	D-4	Q202	B-29
D552	C-4	Q203	D-27
D553	D-4	Q281	D-27
D554	C-6	Q282	D-28
D555	C-4	Q301	J-3
D556	D-4	Q302	H-4
D557	C-4	Q303	I-4
D558	E-4	Q351	J-3
D559	C-5	Q352	H-5
D560	C-5	Q353	I-5
D561	C-5	Q401	E-5
D562	C-5	Q451	E-5
D563	C-4	Q501	C-3
D564	D-4	Q502	C-3
D565	D-6	Q503	B-2
D566	D-6	Q504	C-2
D567	D-6	Q505	D-3
D596	I-20	Q551	E-5
D597	I-20	Q552	C-4
D598	I-19	Q553	C-4
D801	J-12	Q554	C-4
D802	J-12	Q555	E-4
D901	F-9	Q701	E-25
D902	D-10	Q702	C-19
D903	D-8	Q751	E-25
D904	C-10	Q752	C-21
D905	C-8	Q801	I-12
		Q802	J-12
		Q803	J-12
IC051	F-14	Q804	I-12
IC101	G-12	Q901	D-8
IC201	C-27	Q902	D-8
IC202	A-28	Q903	C-10
IC301	I-3	Q904	C-8
IC302	G-3		
IC303	H-3		

Note:
● — : parts extracted from the component side.

3-4. PRINTED WIRING BOARDS

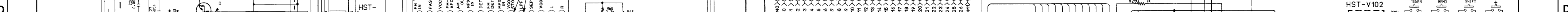


[PANEL BOARD]



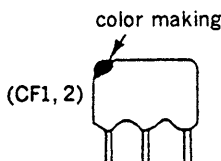
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----

The schematic diagram illustrates the internal circuitry of the AM radio receiver. It begins with a power supply section on the left, featuring a 3000 ohm resistor and a 100 ohm resistor connected to a 1.5V battery. The circuit then proceeds through a tuning eye stage, which includes a 100 ohm resistor and a 100 ohm resistor connected to a 1.5V battery. The AM detector stage follows, consisting of a 100 ohm resistor and a 100 ohm resistor connected to a 1.5V battery. The output of the AM detector is connected to a speaker or earphone. The diagram also shows the internal components of the radio, including the tuning eye and the AM detector.



Note on Ceramic Filter (C1, 2) Replacement.

This set employs two ceramic filters (CF1, 2) which should have the same color marking to identify their center frequency. Therefore FM IF offset adjustment by jumpers (* A, * B) is necessary to match the center frequency of the ceramic filters used with FM intermediate frequency.



Note:

- All capacitors are in μF unless otherwise noted. pF: $\mu\mu\text{F}$ 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- $\triangle$: internal component.
- : nonflammable resistor.
- : fusible resistor.

Note:

The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety. Replace only with part number specified.

Note:

Les composants identifiés par une marque $\triangle$ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- **B+** : B+ Line
- **B-** : B- Line
- : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark: FM
- Voltages are taken with a VOM (Input Impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Signal path.
 $\Rightarrow$: FM Σ : PB (DECK A)

○ : Connected
× : not Connected

Ceramic filter		Mount		FM intermediate frequency (MHz)
Color mark	Center frequency (MHz)	IF-50K * B	IF+50K * A	
white	10.750	×	○	10.750
Red	10.700	×	×	10.700
Black	10.650	○	×	10.650

FM intermediate frequency is determined by the three types as shown above. Ceramic filters of same center frequency, i. e. of same color coding, should be used for CF1 and CF2.

When replacing the ceramic filters, perform the FM Discriminator Adjustment.

TEST-MODE BY DISPLAY-CONTROL MICROCOMPUTER (IC201)

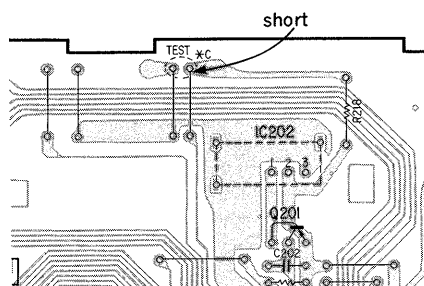
- If the power is turned on with the terminals of TEST (* C) shorted, all the segments of LCD201 will light.
- When a this unit is delivered or the capacitor (C221) which supplies backup power to IC201 is shorted. the following frequencies will be restored into the internal memories of IC201.
- After repair, return the memory to the preceding state (content).

FM		MW		LW	
1	87.5MHz	1	531kHz	1	153kHz
2	93.0MHz	2	603kHz	2	173kHz
3	98.0MHz	3	999kHz	3	216kHz
4	103.0MHz	4	1404kHz	4	261kHz
5	108.0MHz	5	1602kHz	5	279kHz
Last Channel	87.5MHz	Last Channel	531kHz	Last Channel	153kHz

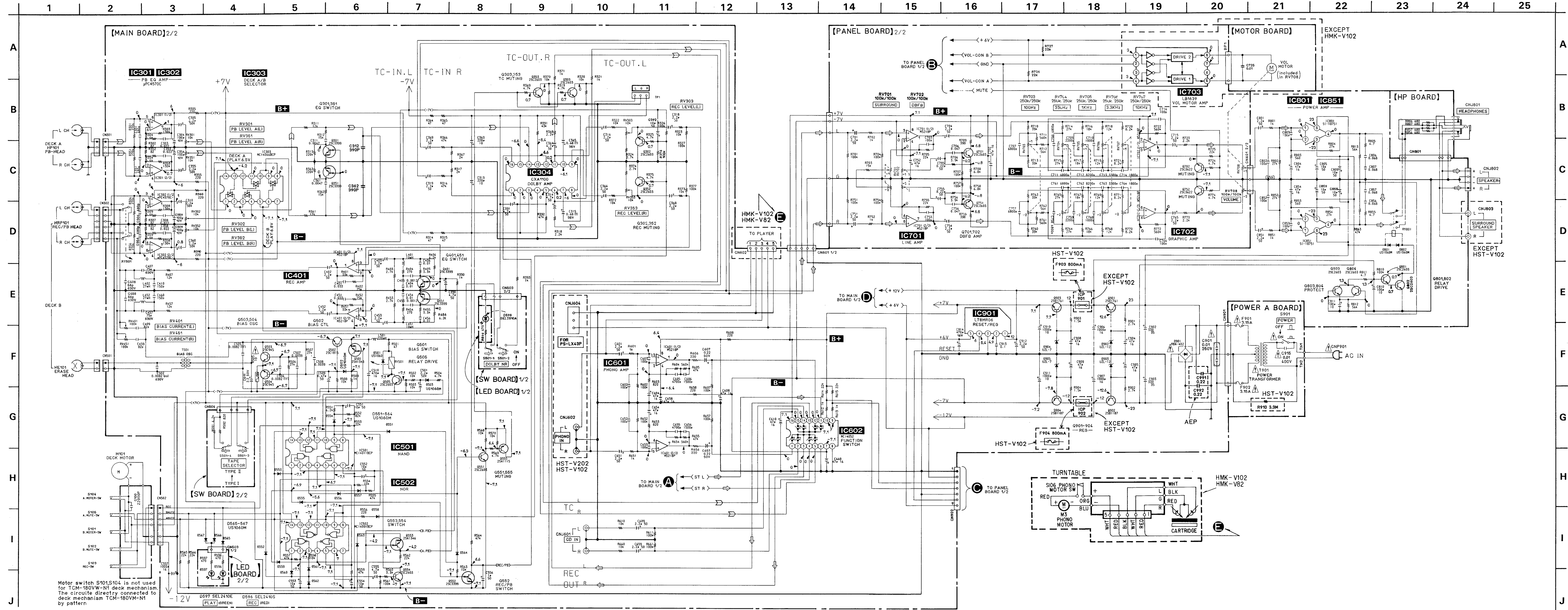
CONTROL BOARD

—Conductive Side—

PANEL BOARD Location (27, A) see page 14



3-6. SCHEMATIC DIAGRAM —MAIN SECTION—



SECTION 4

EXPLODED VIEWS

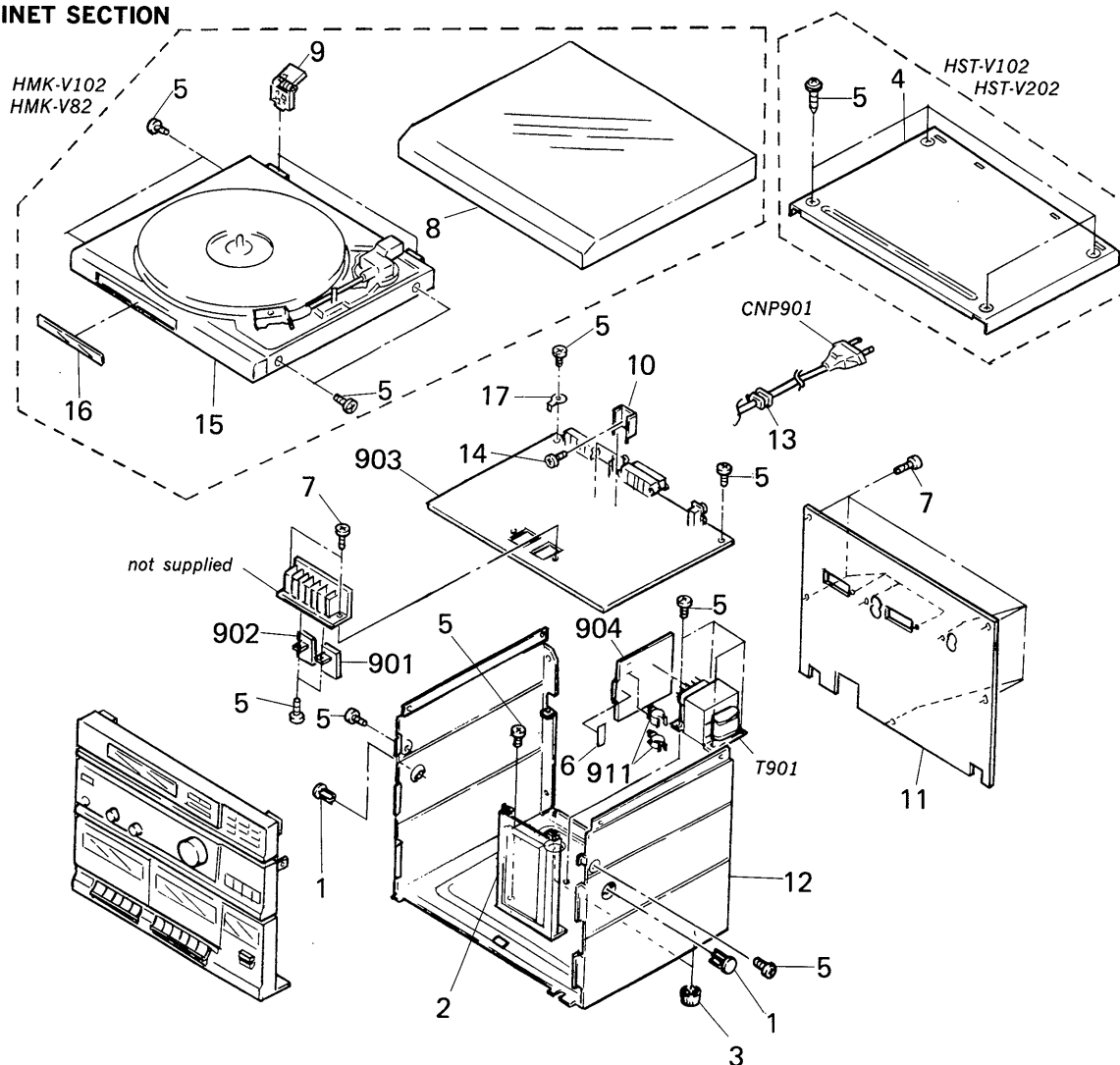
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
Example:
(RED) ... KNOB, BALANCE (WHITE)
 ↑ ↑
Cabinet's Color Parts' Color

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

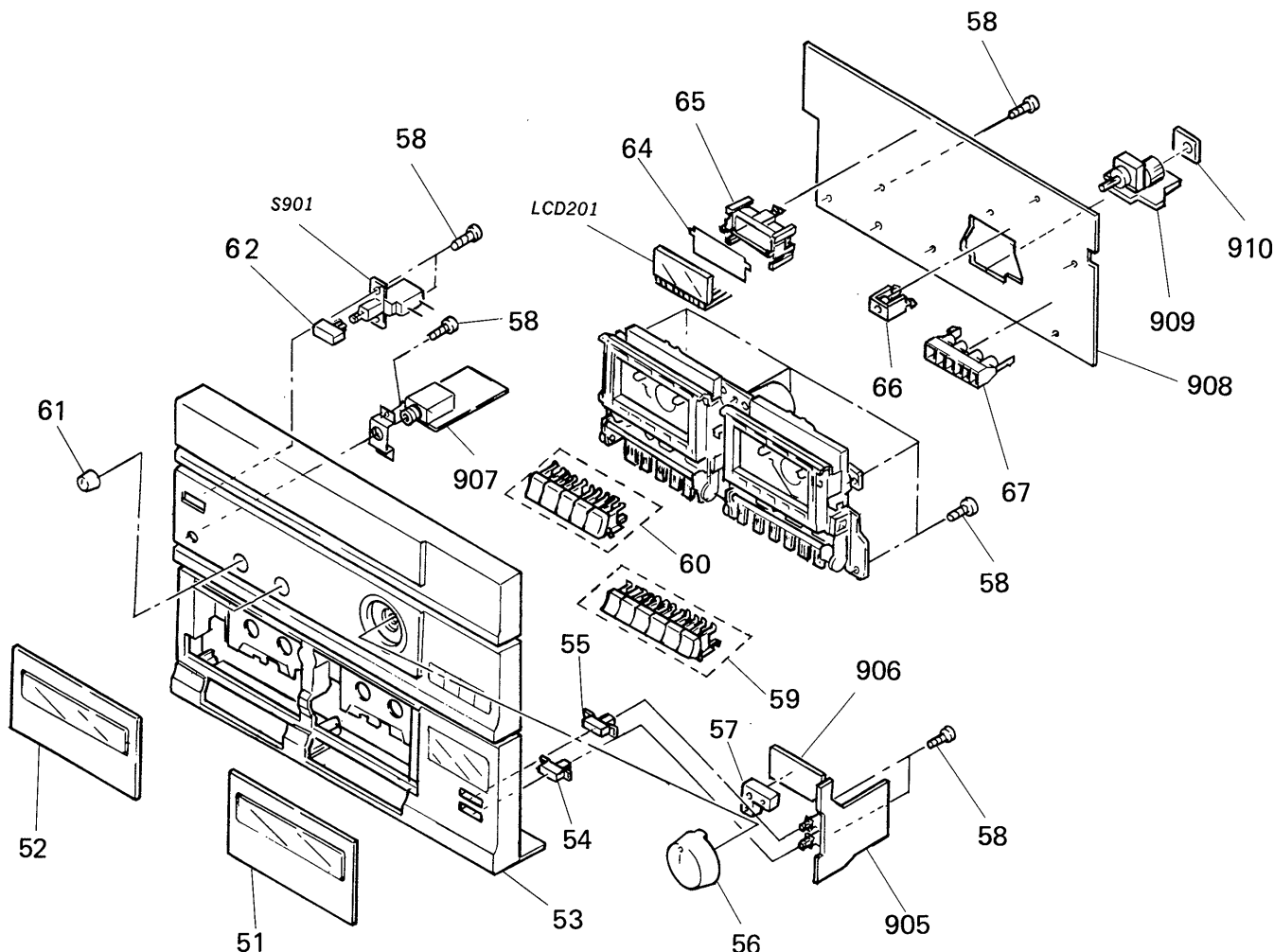
Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

4-1. CABINET SECTION



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	4-935-307-03	HOLDER, PC BOARD		15	4-895-937-01	(HMK-V82/V102)...CABINET, MAIN	
2	*4-935-306-11	BRACKET (H)		16	4-895-938-01	(HMK-V82/V102)...WINDOW, FRONT	
3	4-933-601-01	FOOT		17	*4-904-446-01	PLATE, GROUND	
4	4-935-304-13	(HST-V102/V202)...CASE (T)		901	*1-634-167-11	PC BOARD, IC-L	
5	7-685-646-79	SCREW +BVT 3X8 TYPE2 N-S		902	*1-634-168-11	PC BOARD, IC-R	
6	*3-701-946-25	(HST-V102)...LABEL (3.15A 125V), FUSE		903	*A-4334-136-A	(HMK-V102/V82:AEP)...MOUNTED PCB, MAIN	
7	7-685-648-79	SCREW +BVT 3X8 TYPE2 N-S			*A-4334-150-A	(HMK-V102:UK).....MOUNTED PCB, MAIN	
8	X-4895-506-1	(HMK-V82/V102)...COVER ASSY, DUST			*A-4334-468-A	(HST-V202:AEP).....MOUNTED PCB, MAIN	
9	4-895-936-01	(HMK-V82/V102)...HINGE			*A-4334-474-A	(HST-V202:UK).....MOUNTED PCB, MAIN	
10	*4-880-403-11	HEAT SINK			*A-4334-811-A	(HST-V102).....MOUNTED PCB, MAIN	
11	4-930-776-11	(HMK-V82).....PANEL, BACK		△CNP901.1-551-478-00	(HST-V102)...CORD, POWER		
	4-930-776-31	(HMK-V102).....PANEL, BACK		△CNP901.1-555-750-00	(AEP).....CORD, POWER		
	4-935-315-11	(HST-V202:AEP).....PANEL, BACK		△CNP901.1-556-035-00	(UK).....CORD, POWER		
	4-935-315-21	(HST-V202:UK).....PANEL, BACK		904	*1-634-170-11	PC BOARD, POWER (A)	
	*4-935-316-31	(HST-V102:US).....PANEL, BACK		911△.	*1-533-189-11	HOLDER, FUSE	
	*4-935-316-41	(HST-V102:Canadian).PANEL, BACK		T901△.1-449-873-21	(EXCEPT HST-V102)...TRANSFORMER, POWER		
12	*4-935-301-61	(HMK-V102/V82)...CHASSIS		T901△.1-450-046-21	(HST-V102:US).....TRANSFORMER, POWER		
	*4-935-301-71	(HST-V102/V202)...CHASSIS		T901△.1-450-143-11	(HST-V102:Canadian).TRANSFORMER, POWER		
13	*3-703-244-00	BUSHING (2104), CORD					
14	7-682-548-04	SCREW +BVT 3X8 (S)					

4-2. FRONT PANEL SECTION



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	A-4323-465-A	(EXCEPT HST-V102) ...LID (B) ASSY, CASSETTE		62	4-930-783-11	BUTTON (P0)	
	A-4323-489-A	(HST-V102:US).LID (B) ASSY, CASSETTE		64	*4-935-303-11	ILLUMINATOR (LCD)	
	A-4323-465-B	(HST-V102:Canadian) ...LID (B) ASSY, CASSETTE		65	*4-930-786-11	HOLDER (LL)	
52	A-4323-466-A	(EXCEPT HST-V102) ...LID (A) ASSY, CASSETTE		66	*4-930-781-11	(EXCEPT HMK-V102)...HOLDER (VO), LED	
	A-4323-488-A	(HST-V102:US).LID (A) ASSY, CASSETTE		67	*4-930-780-11	HOLDER (FU), LED	
	A-4323-466-A	(HST-V102:Canadian) ...LID (A) ASSY, CASSETTE		905	*1-634-174-11	PC BOARD, SW	
53	A-4323-384-A	(HMK-V102) ...PANEL ASSY, FRONT		906	*1-634-173-11	PC BOARD, LED	
	A-4323-443-A	(HST-V202) ...PANEL ASSY, FRONT		907	*1-634-175-11	PC BOARD, HP	
	A-4323-472-A	(HST-V102:US).PANEL ASSY, FRONT		908	*A-4334-132-A	(HMK-V82:AEP,HST-V202:AEP) ...MOUNTED PCB, PANEL	
	A-4323-546-A	(HMK-V82) ...PANEL ASSY, FRONT			*A-4334-146-A	(HMK-V102:UK)...MOUNTED PCB, PANEL	
	A-4323-471-A	(HST-V102:Canadian) ...PANEL ASSY, FRONT			*A-4334-188-A	(HMK-V102:AEP)...MOUNTED PCB, PANEL	
					*A-4334-471-A	(HST-V202:UK)...MOUNTED PCB, PANEL	
					*A-4334-809-A	(HST-V102).....MOUNTED PCB, PANEL	
54	4-930-794-31	BUTTON (DT)(DOLBY)		909	*1-634-176-11	PC BOARD, VOL	
55	4-930-794-21	BUTTON (DT)(TAPE)		910	*1-634-172-11	(EXCEPT HMK-V102)...PC BOARD, MOTOR	
56	A-4323-382-A	KNOB (VO) ASSY		LCD201	1-808-810-11	DISPLAY PANEL, LIQUID CRYSTAL	
57	*4-930-793-11	HOLDER (TC), LED		S901	*1-572-109-11	SWITCH, PUSH (AC POWER)(1 KEY)	
58	4-928-635-21	SCREW, +BV (2.6X10) TAPPING					
59	4-930-797-11	BUTTON (MD-B)					
60	4-930-796-11	BUTTON (MD-A)					
61	4-930-784-11	KNOB (SD)					

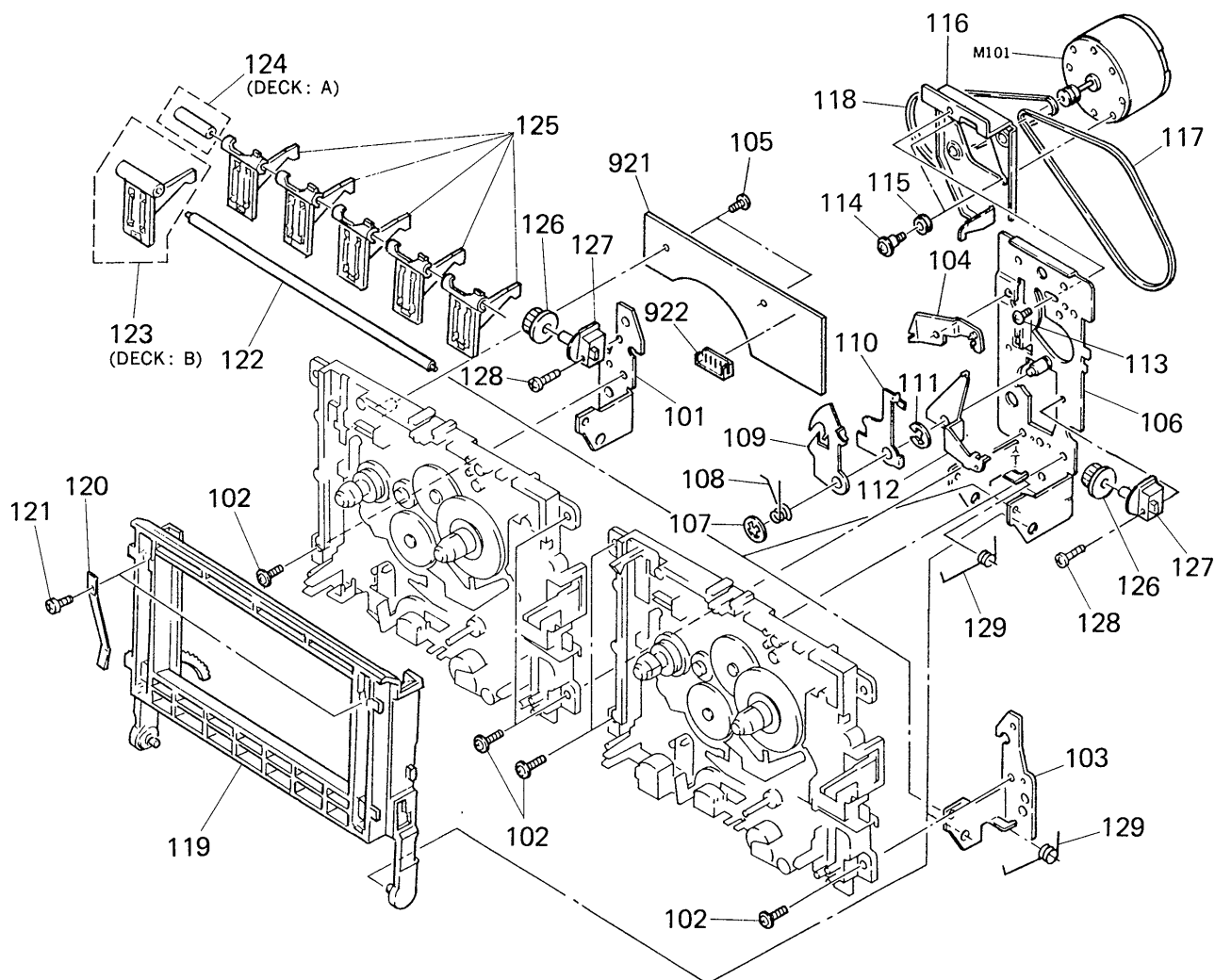
Note:

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Note:

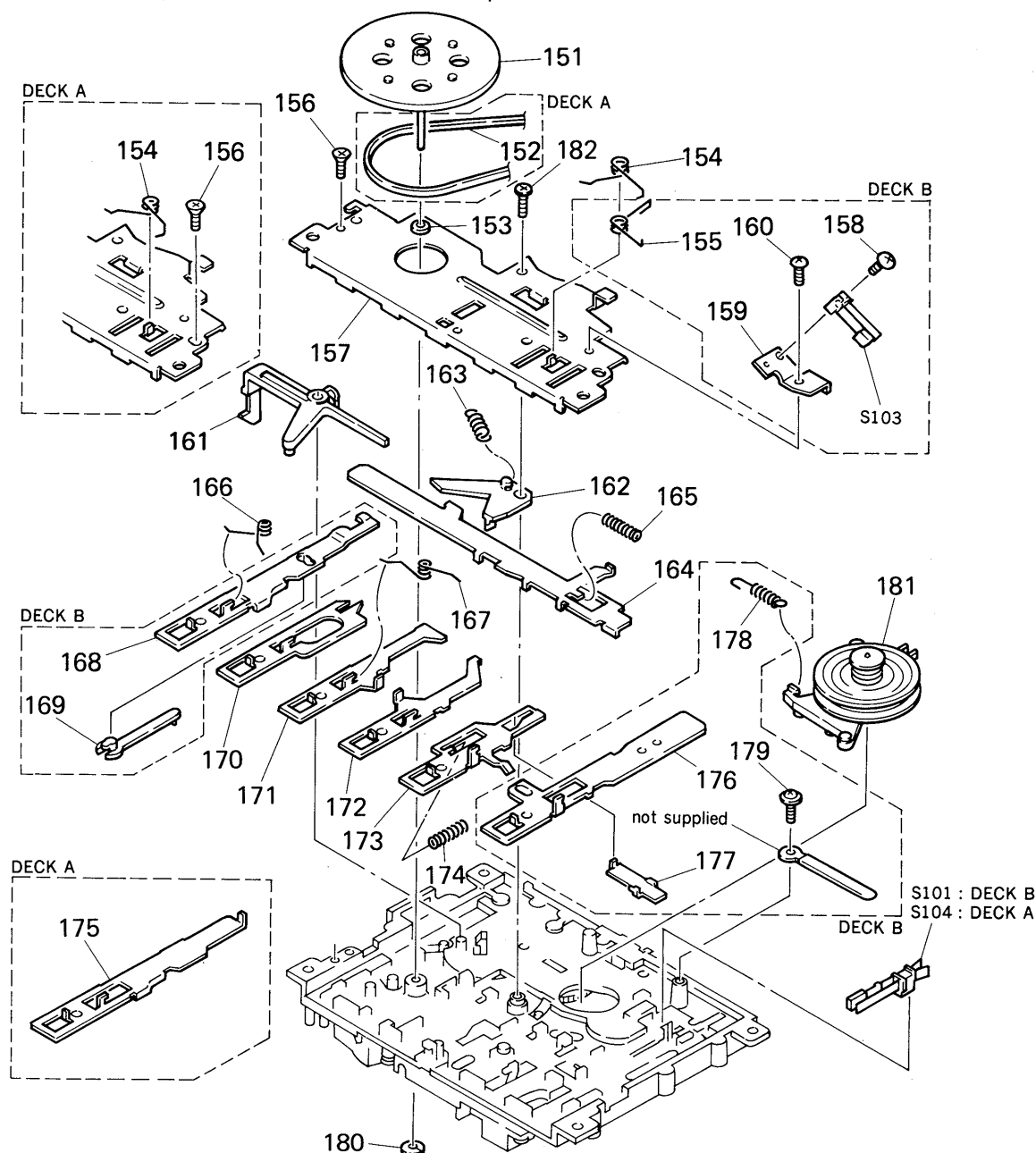
Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

4-3. MECHANISM DECK SECTION (1) HMK-V102 (TCM-YMW47C-97) HST-V201/V202



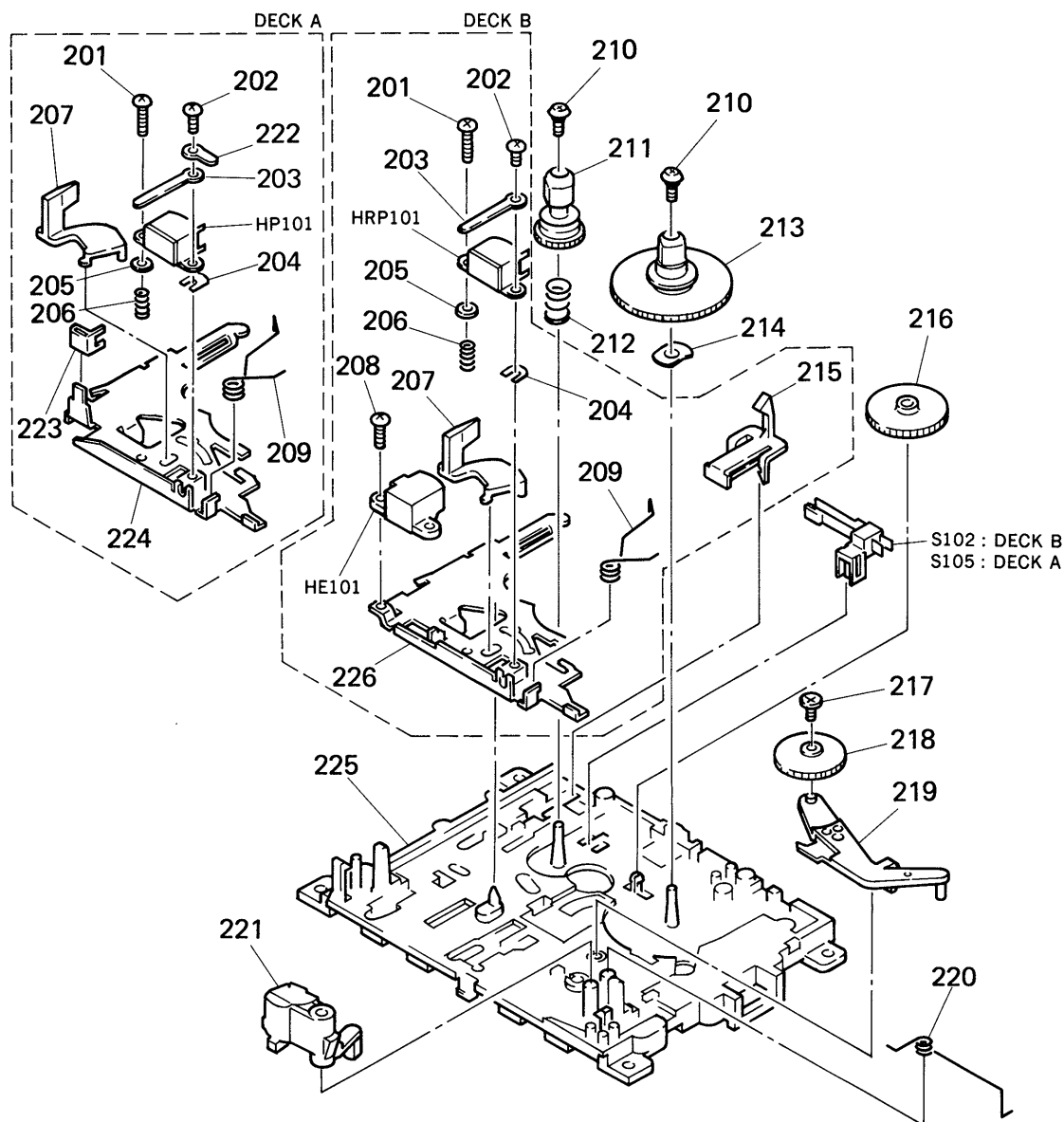
Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
101	3-390-854-01	HOLDER (LEFT), BUTTON		117	3-390-847-01	BELT	
102	7-621-770-67	SCREW (BVTT WH 2.6X6)		118	3-390-852-01	BELT, SQUARE	
103	3-392-164-01	HOLDER (RIGHT), BUTTON		119	3-390-801-01	CASSETTE CASE	
104	4-895-002-01	P CONNECT LEVER ASSY		120	4-894-951-01	KEEP PLATE	
105	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT		121	7-685-103-19	T. SCREW	
106	3-390-859-01	JOINT ASSY		122	4-894-970-01	BUTTON SHAFT W	
107	7-624-190-11	STOP RING 3, TYPE-CS		123	3-390-856-01	(DECK B)....HOLDER (RIGHT), BUTTON	
108	4-895-003-01	SRING		124	4-895-018-01	(DECK A)....SPACER	
109	4-895-004-01	LOCK PLATE		125	4-894-971-01	BUTTON LEVER	
110	4-895-005-01	UNLOCK PLATE		126	3-392-144-01	DUMPER GEAR	
111	7-624-106-04	STOP RING 3.0, TYPE -E		127	3-392-143-01	HOLDER GEAR	
112	4-895-006-01	CONNECT LEVER		128	7-685-856-01	D. SCREW	
113	7-621-770-87	SCREW +PTT 2.6X5 (S)		129	4-894-973-01	SPRING	
114	3-390-850-01	SCREW MOTOR		921	*1-634-251-11	PC BOARD, TRANSLATION	
115	*3-390-853-01	CUSHION		922	*1-564-499-11	PIN, CONNECTOR 6P	
116	*3-390-851-01	BRACKET, MOTOR		M101	X-3390-803-1	MOTOR ASSY	

4-4. MECHANISM DECK SECTION (2) HMK-V102
(TCM-YMW47C-97) HST-V102/V202



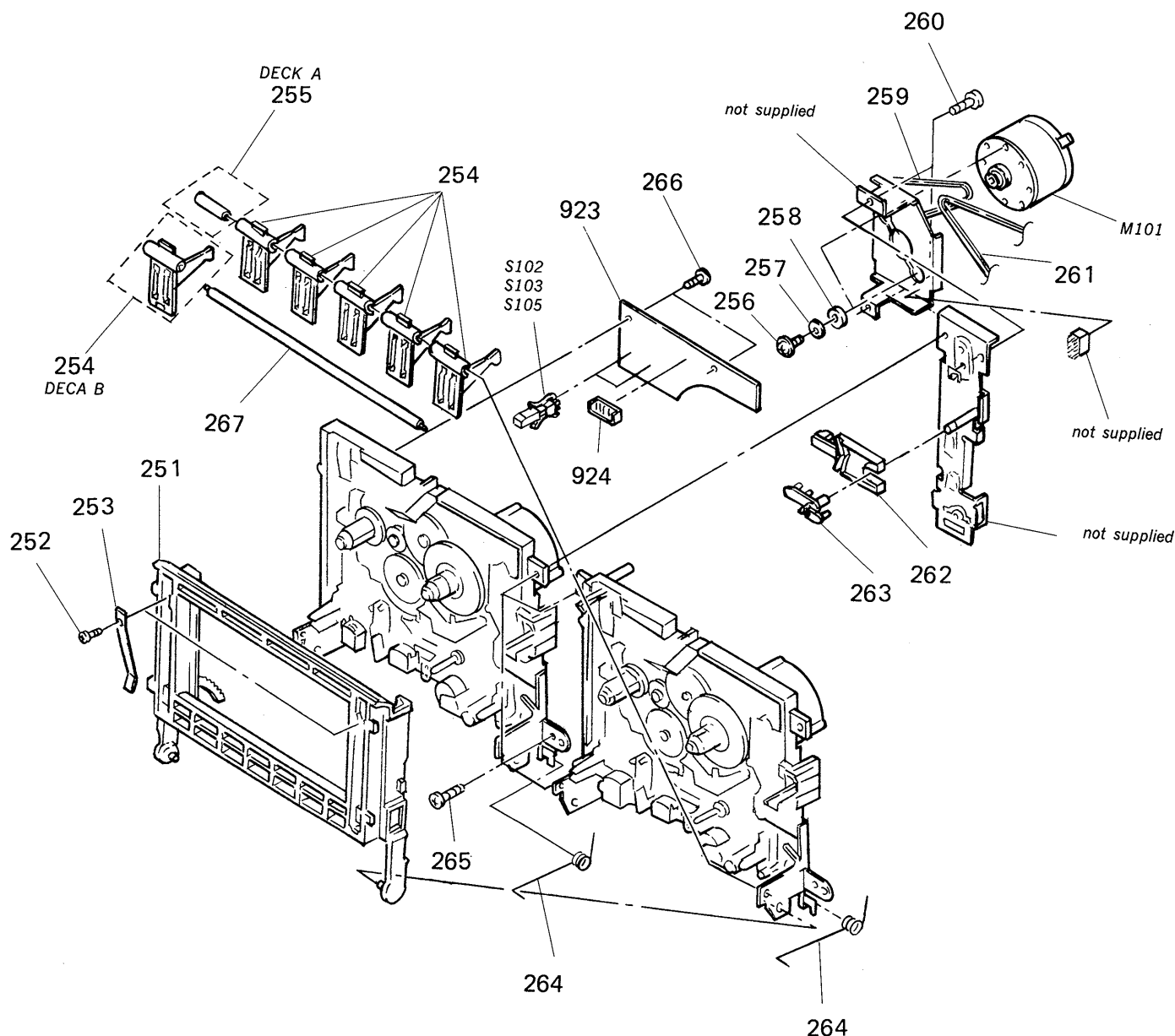
<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
151	3-390-806-11	FW ASSY		169	4-894-985-01	PAUSE ARM	
152	3-561-892-00	BELT, SQUARE		170	*4-894-987-01	S.E LEVER	
153	4-894-976-01	P WASHER		171	*4-894-988-01	FF LEVER W	
154	4-894-978-01	SPRING		172	*4-894-990-01	REW LEVER	
155	4-894-979-01	SPRING		173	3-390-810-01	LEVER, PLAY	
156	7-685-234-19	SCREW +KTP 2.6X8 TYPE2NON-SLIT		174	3-390-827-01	SPRING	
157	*4-894-977-01	BACK PLATE		175	4-895-011-01	PAUSE LEVER W	
158	7-621-770-87	SCREW +PTT 2.6X5 (S)		176	*4-894-994-01	REC LEVER	
159	3-390-855-01	PLATE, PSW		177	3-390-811-01	LEVER, REC STOP	
160	7-621-255-25	SCREW +PTT 2X4 (S)		178	3-390-848-01	SPRING, TENSION	
161	*4-894-980-01	EJECT ARM		179	7-687-233-11	SCREW (+ PTPWH) (2.6X6)	
162	4-894-982-01	S ARM		180	4-894-969-01	N WASHER	
163	3-390-809-01	SPRING		181	4-894-997-01	POWER ARM ASSY	
164	4-894-984-01	FUNCTION LEVER		182	3-390-822-01	BUSHING (C)	
165	4-894-983-01	C SPRING		S101	1-570-715-11	(DECK B)... SWITCH, LEAF	
166	4-894-989-01	SPRING		S103	1-572-040-11	(DECK B)... SWITCH, LEAF	
167	4-894-999-01	SPRING		S104	1-570-715-11	(DECK A)... SWITCH, LEAF	
168	*4-894-986-01	PAUSE LEVER					

4-5. MECHANISM DECK SECTION (3) HMK-V102 (TCM-YMW47C-97) HST-V102/V202



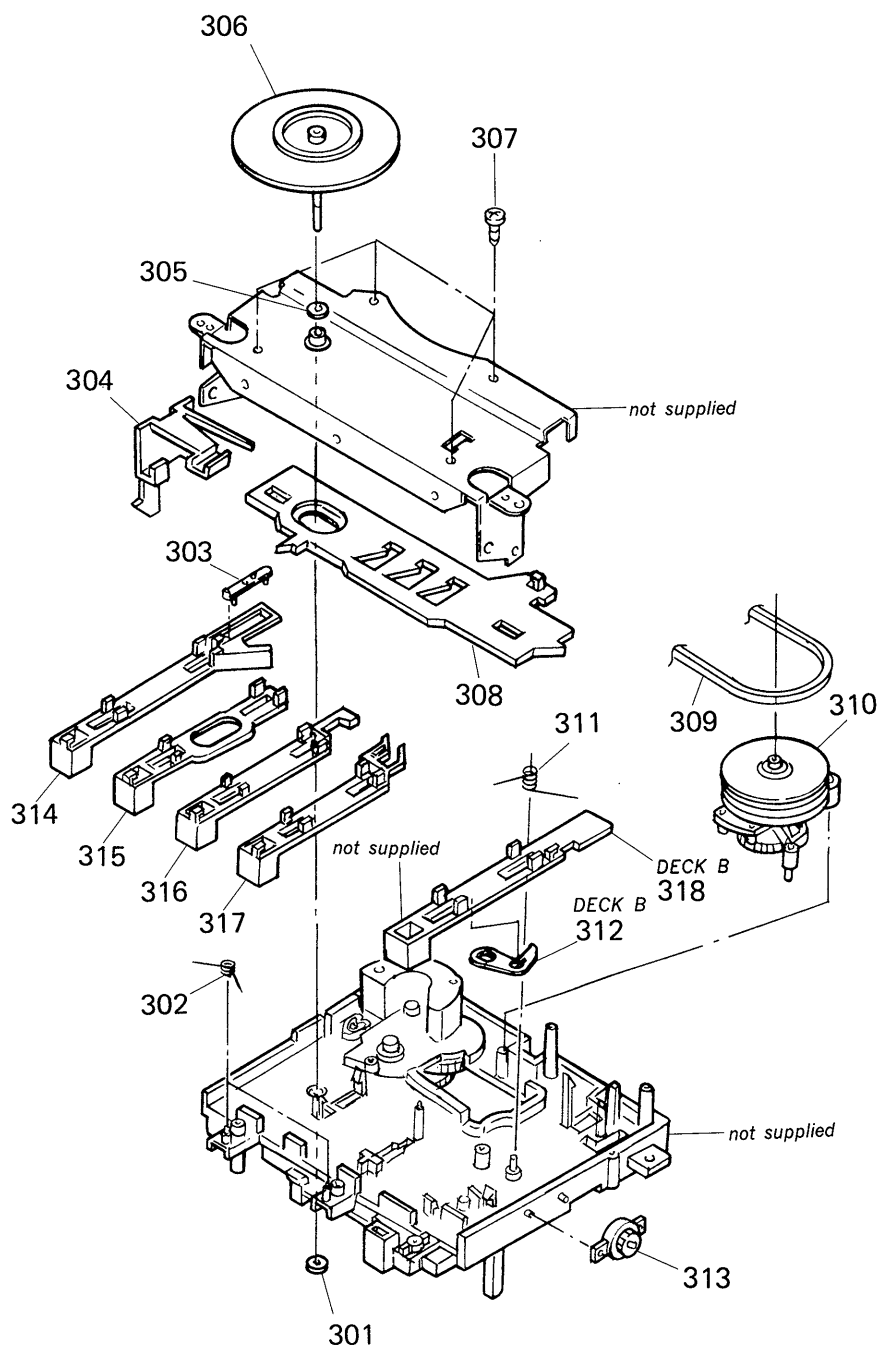
Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
201	7-621-255-55	SCREW,TOTSU P 2X8		217	4-894-960-01	BUSH	
202	7-621-255-15	SCREW +P 2X3		218	4-894-961-01	IDLER GEAR	
203	3-390-819-01	LUG		219	4-894-962-01	IDLER ARM	
204	3-390-821-01	SPACER		220	4-894-967-01	SPRING	
205	3-390-823-01	WASHER, F		221	3-390-805-01	ROLLER ASSY, PINCH	
206	4-894-955-01	C SPRING		222	3-390-817-01	LUG	
207	4-894-956-01	TAPE SENSOR		223	4-895-016-01	TAPE GUIDE	
208	7-621-771-06	SCREW +B 2X5		224	4-895-015-01	HEAD BASE	
209	3-390-804-01	SPRING, PINCH ARM		225	4-894-968-01	CHASSIS ASSY	
210	3-390-803-01	BUSHING (D)		226	*4-894-957-01	HEAD BASE B	
211	4-894-953-01	S REEL		HE101	1-543-673-11	HEAD, MAGNETIC (ERASE)	
212	4-894-954-01	C SPRING		HP101	1-543-672-11	(DECK A)...HEAD, MAGNETIC (REC/PB)	
213	4-894-963-01	T REEL ASSY		HRP101	1-543-672-11	(DECK B)...HEAD, MAGNETIC (REC/PB)	
214	3-390-820-01	SPRING, LEAF		S102	1-570-430-11	(DECK B)...SWITCH, LEAF	
215	4-894-958-01	INTERLOCK ARM		S105	1-570-430-11	(DECK A)...SWITCH, LEAF	
216	4-894-964-01	F GEAR					

4-6. MECHANISM DECK SECTION (4) HMK-V82/V102
(TCM-180VW-N1) HST-V102/V202



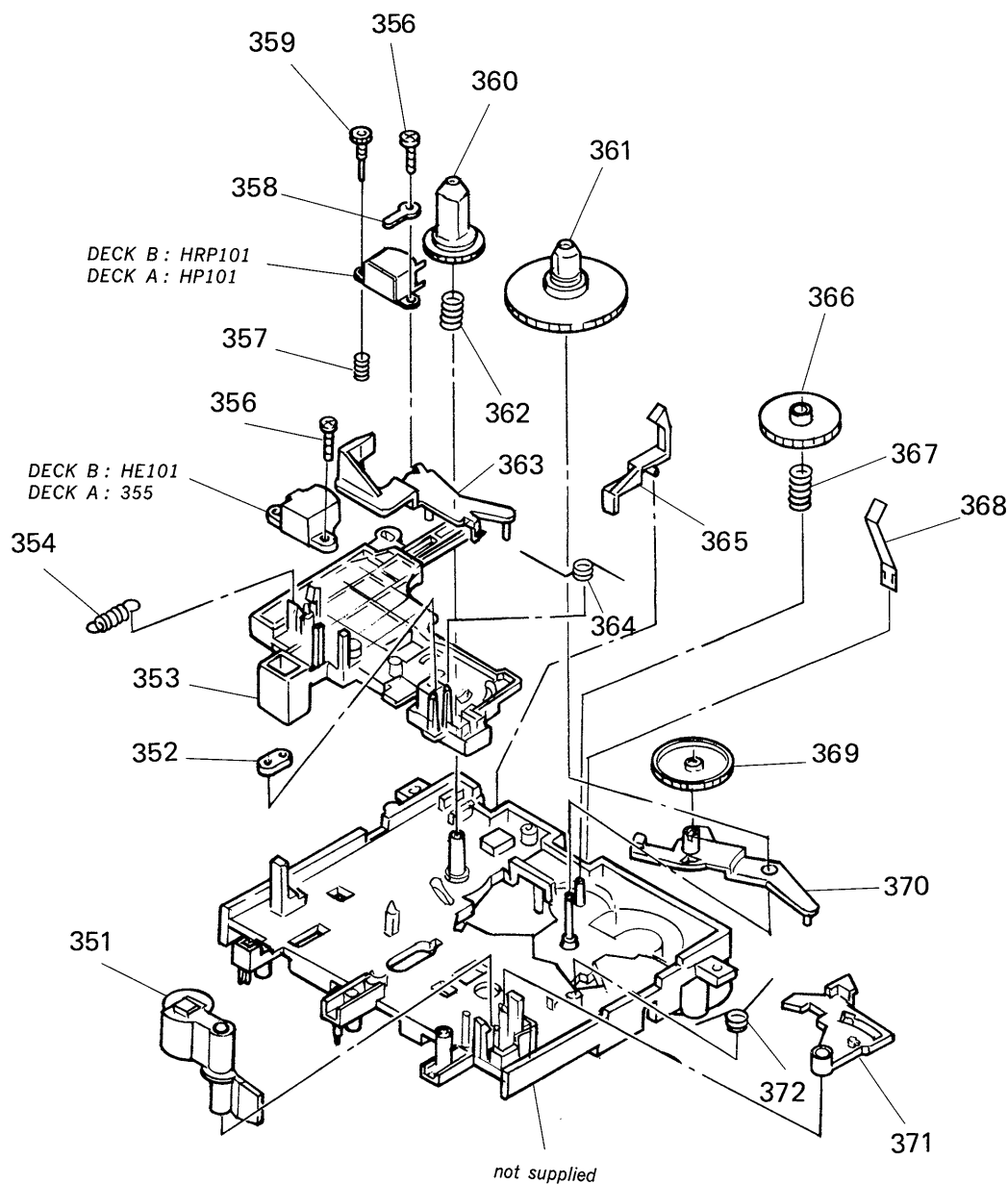
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
251	3-358-266-01	HOLDER, CASSETTE		263	3-358-203-01	LEVER (TRIGGER)	
252	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT		264	3-358-229-01	SPRING (LOADING), TORSION	
253	3-358-209-01	SPRING (CASSETTE HOLDER), LEAF		265	7-621-770-XX	SCREW +BVTT 2.6X6 (S)	
254	3-358-210-01	LEVER (BUTTON BASE C)		266	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
255	*3-358-216-01	(DECK A)...COLLAR		267	3-358-242-01	SHAFT (BUTTON SHAFT)	
256	3-570-027-00	SCREW, MOTOR					
257	7-623-925-01	WASHER 4.0, NYLONE		923	*1-635-159-11	PC BOARD, SW	
258	3-570-118-00	CUSHION, MOTOR		924	*1-564-499-11	(TCM-180VW-N1)...PIN, CONNECTOR 6P	
259	3-358-230-01	BELT (A1)		M101	X-3358-201-1	MOTOR (W) ASSY	
260	7-621-770-67	SCREW +BVTT 2.6X6 (S)					
261	3-358-211-01	BELT (W)		S102	1-571-736-11	(TCM-180VW-N1)...SWITCH, LEAF	
262	3-358-202-01	SLIDER (TRIGGER)		S103	1-571-736-11	(TCM-180VW-N1)...SWITCH, LEAF	
				S105	1-571-736-11	(TCM-180VW-N1)...SWITCH, LEAF	

4-7. MECHANISM DECK SECTION (5) HMK-V82/V102 (TCM-180VW-N1) HST-V102/V202



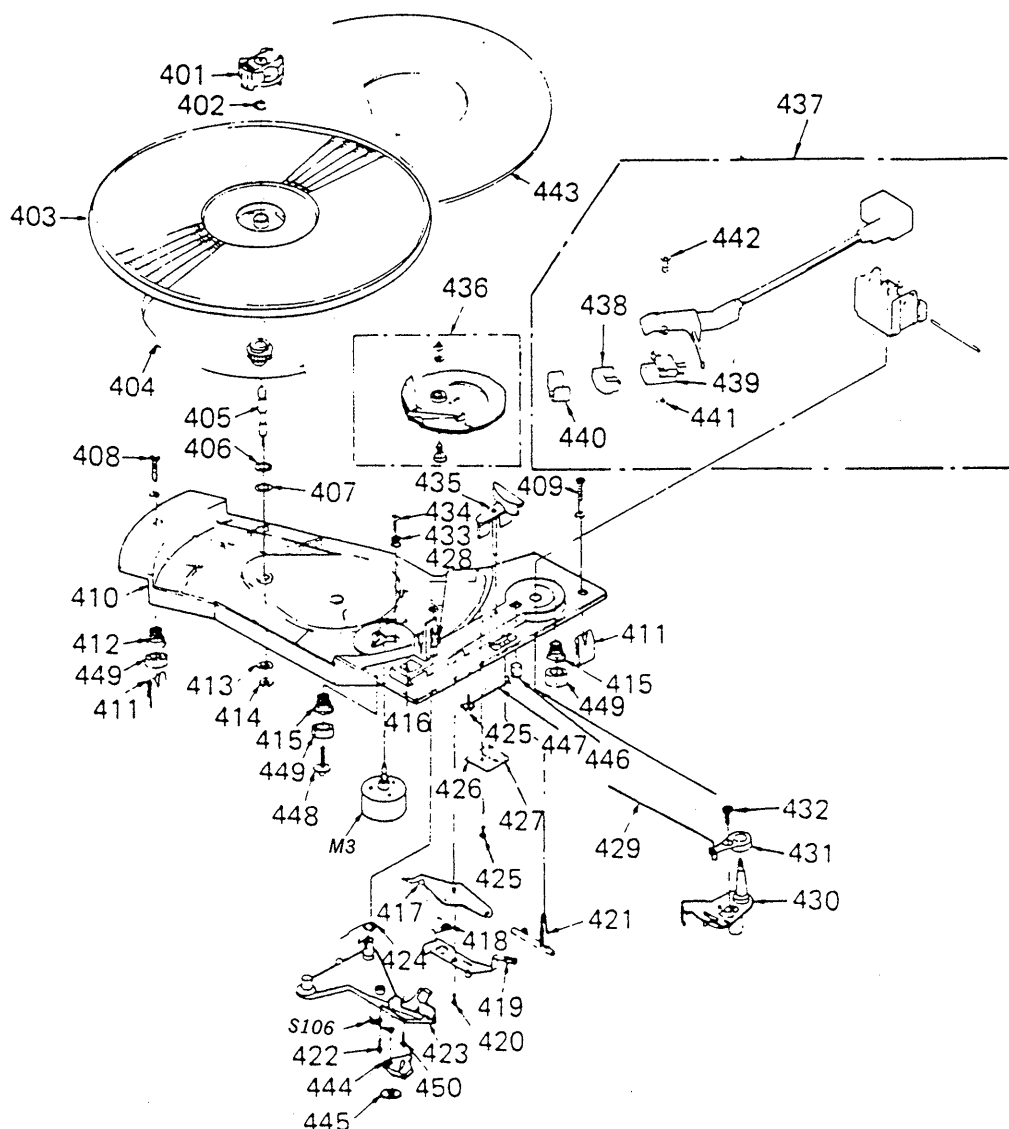
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
301	7-623-921-01	WASHER 1.7, NYLONE		311	3-358-214-01	(DECK A)...SPRING (LOCK), TORSION	
302	3-358-232-01	SPRING (S-P F-R), TORSION			3-358-233-01	(DECK B)...SPRING (REC-LOCK), TORSION	
303	*3-358-226-01	LEVER (PAUSE LEVER)		312	*3-358-204-01	(DECK B)...LEVER (REC SAFETY)	
304	*3-358-261-01	SLIDER (HOLDER LOCK)		313	3-319-224-31	DAMPER, SMALL	
305	3-701-437-01	WASHER		314	3-358-260-01	SLIDER (PAUSE)	
306	X-3358-205-1	(DECK A)...FLYWHEEL (A) ASSY		315	3-358-256-01	SLIDER (STOP/EJECT)	
	X-3358-206-1	(DECK B)...FLYWHEEL (B) ASSY		316	3-358-257-01	SLIDER (FF)	
307	7-685-133-19	SCREW +P 2.6X6 TYPE1		317	3-358-258-01	SLIDER (REW)	
308	*3-358-249-01	SLIDER (LOCK PLATE)		318	3-358-259-01	(DECK B)... SLIDER (REC)	
309	3-358-230-01	BELT (A1)					
310	X-3358-202-1	LEVER (FR ARM) ASSY					

4-8. MECHANISM DECK SECTION (6) HMK-V82/V102
(TCM-180VW-N1) HST-V102/V202



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
351	X-3358-204-1	LEVER (PINCH LEVER) ASSY		364	3-358-228-01	SPRING, TORSION	
352	*3-358-215-01	BUSHING (WIRE KIT RETAINER)		365	*3-358-255-01	LEVER (GB LEVER)	
353	3-358-265-01	SLIDER (HEAD PC BOARD A)		366	*3-358-224-01	GEAR (FF GEAR)	
354	3-358-217-01	SPRING, TENSION		367	3-358-207-01	SPRING (FF GEAR), COMPRESSION	
355	3-358-285-01	(DECK A)...GUIDE, TAPE		368	3-358-227-01	SPRING, LEAF	
356	7-685-105-19	TPG +P 2X8, TYPE 2, NON-SLIT		369	*3-358-225-01	GEAR (TU GEAR)	
357	3-358-234-01	SPRING (AZIMUTH), COMPRESSION		370	*3-358-252-01	LEVER (TU ARM)	
358	7-623-505-01	LUG, 2		371	*3-358-253-01	LEVER (SHUT-OFF LEVER)	
359	3-358-213-01	SCREW, AZIMUTH		372	3-358-243-01	SPRING (TU-SHUT), TORSION	
360	3-358-248-01	GEAR (SUPPLY REEL)					
361	X-3358-203-1	TABLE (T) ASSY, REEL		HE101	1-543-673-11	(DECK B)...HEAD, MAGNETIC (ERASE)	
362	3-358-208-01	SPRING (SUPPLY), COMPRESSION		HP101	1-543-672-11	(DECK A)...HEAD, MAGNETIC (REC/PB)	
363	*3-358-251-01	LEVER (TENSION DETECTION ARM)		HRP101	1-543-672-11	(DECK B)...HEAD, MAGNETIC (REC/PB)	

4-9. PLAYER SECTION HMK-V82/V102



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
401	4-895-521-01	ADAPTOR (B), 45		427	*4-895-529-01	BASE, SIDE	
402	4-895-020-01	E RING DIA.6		428	4-895-046-01	P.U. TUBE HOOK	
403	X-4895-501-2	TURNTABLE ASSY		429	*4-895-530-01	ROD	
404	4-895-022-01	BELT		430	*4-895-531-01	CAM	
405	4-895-524-01	SPINDLE, CENTER		431	4-895-532-01	CLUTCH	
406	4-895-024-01	POLY WASHER		432	4-895-533-01	SPRING	
407	4-895-025-01	FLAT WASHER		433	4-895-049-01	GROMMET (A)	
408	*4-895-525-01	SCREW (1), TRANSPORT		434	4-895-050-01	SCREW	
409	*4-895-526-01	SCREW (2), TRANSPORT		435	*4-895-534-01	PLATE, LIFTER	
410	*4-895-028-01	BASE		436	X-4895-502-1	GEAR ASSY, CAM	
411	*4-895-029-01	RETAINING CLIP		437	X-4896-005-1	ARM ASSY, PICK-UP	
412	*4-895-030-01	SPRING (B)		438	4-896-147-01	STYLUS	
413	4-895-031-01	W GEAR		439	4-896-146-01	CARTRIDGE	
414	4-895-032-01	NUT		440	*4-896-148-01	COVER, CARTRIDGE	
415	*4-895-033-01	SPRING (A)		441	4-896-145-01	NUT	
416	4-895-552-01	LID, FUNCTION		442	4-896-149-01	2BID 2608ZN3K	
417	4-895-035-01	SPEED SHIFT CAM 45		443	4-895-056-01	MAT	
418	4-895-036-01	SPRING		444	*4-895-550-01	CAM	
419	4-895-037-01	SPEED SHIFT CAM 33		445	4-303-605-00	PUSH NUT DIA.3	
420	4-895-038-01	7-CUP 3008		446	*4-895-058-01	VISCOUS SHAFT	
421	4-895-039-01	CUE LEVER		447	*4-895-059-01	VISCOUS WIRE	
422	4-895-040-01	7-BID 2006		448	4-895-935-01	SCREW	
423	*4-895-527-01	ARM, CONTROL		449	4-895-064-01	SPONGE	
424	4-895-042-01	ARM, CONTROL		450	7-685-649-79	SCREW (7-BID 3016 ZN3A)	
425	4-895-044-01	7-BID 3008		M3	4-895-034-01	MOTOR ASSY (PLAYER)	
426	*4-895-528-01	PLATE, MOTOR		S106	4-895-068-01	LIEF, SW (PLAYER)	

SECTION 5 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF: μ F, PF: μ F.

RESISTORS

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORS

In each case, U: μ , for example:

UA....: μ A...., UPA....: μ PA....,
UPC....: μ PC, UPD....: μ PD....

The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description
901	*1-634-167-11	PC BOARD, IC-L
902	*1-634-168-11	PC BOARD, IC-R
903	*A-4334-136-A	(HMK-V102/V82:AEP)...MOUNTED PCB, MAIN
	*A-4334-150-A	(HMK-V102:UK).....MOUNTED PCB, MAIN
	*A-4334-468-A	(HST-V202:AEP).....MOUNTED PCB, MAIN
	*A-4334-474-A	(HST-V202:UK).....MOUNTED PCB, MAIN
	*A-4334-811-A	(HST-V102).....MOUNTED PCB, MAIN
904	*1-634-170-11	PC BOARD, POWER (A)
905	*1-634-174-11	PC BOARD, SW
906	*1-634-173-11	PC BOARD, LED
907	*1-634-175-11	PC BOARD, HP
908	*A-4334-132-A	(HMK-V82:AEP,HST-V202:AEP) ...MOUNTED PCB, PANEL
	*A-4334-146-A	(HMK-V102:UK)....MOUNTED PCB, PANEL
	*A-4334-188-A	(HMK-V102:AEP)...MOUNTED PCB, PANEL
	*A-4334-471-A	(HST-V202:UK)....MOUNTED PCB, PANEL
	*A-4334-809-A	(HST-V102).....MOUNTED PCB, PANEL
909	*1-634-176-11	PC BOARD, VOL
910	*1-634-172-11	(EXCEPT HMK-V102)...PC BOARD, MOTOR
911 Δ	*1-533-189-11	HOLDER, FUSE
921	1-634-251-11	(TCM-YMW47C-97)...PC BOARD, TRANSLATION
922	*1-564-499-11	(TCM-YMW47C-97)...PIN, CONNECTOR 6P
923	*1-635-159-11	(TCM-180VW-N1)...PC BOARD, SW
924	*1-564-499-11	(TCM-180VW-N1)...PIN, CONNECTOR 6P
BP1	*1-508-829-12	(EXCEPT HMK-V102)...H TYPE BASE POST
C001	1-162-294-31	CERAMIC 0.001MF 10% 50V
C002	1-124-477-11	ELECT 47MF 20% 16V
C003	1-161-379-00	CERAMIC 0.01MF 30% 16V
C004	1-162-215-31	CERAMIC 47PF 5% 50V
C010	1-161-494-00	(EXCEPT HST-V102) ...CERAMIC 0.022MF 25V
C021	1-101-006-00	CERAMIC 0.047MF 50V
C022	1-101-006-00	(EXCEPT HST-V102) ...CERAMIC 0.047MF 50V
C023	1-161-494-00	(EXCEPT HST-V102) ...CERAMIC 0.022MF 25V
C024	1-101-006-00	CERAMIC 0.047MF 50V
C025	1-101-006-00	(EXCEPT HST-V102) ...CERAMIC 0.047MF 50V
C026	1-101-006-00	(EXCEPT HST-V102) ...CERAMIC 0.047MF 50V
C027	1-161-374-11	(EXCEPT HST-V102) ...CERAMIC 0.0015MF 30% 16V
C028	1-102-120-00	(EXCEPT HST-V102) ...CERAMIC 0.0018MF 10% 50V
C051	1-124-477-11	ELECT 47MF 20% 16V
C052	1-161-379-00	CERAMIC 0.01MF 30% 16V
C053	1-101-006-00	CERAMIC 0.047MF 50V

Ref.No.	Part No.	Description
C054	1-123-382-00	ELECT 3.3MF 20% 50V
C055	1-161-494-00	CERAMIC 0.022MF 25V
C056	1-161-329-00	CERAMIC 0.0068MF 30% 16V
C057	1-124-791-11	ELECT 1MF 20% 50V
C058	1-124-791-11	ELECT 1MF 20% 50V
C059	1-124-902-00	ELECT 0.47MF 20% 50V
C060	1-124-463-00	ELECT 0.1MF 20% 50V
C061	1-136-154-00	(EXCEPT HST-V102) ...FILM 0.012MF 5% 50V
	1-136-155-00	(HST-V102) ...FILM 0.015MF 5% 50V
C062	1-123-382-00	ELECT 3.3MF 20% 50V
C063	1-123-382-00	ELECT 3.3MF 20% 50V
C066	1-136-154-00	(EXCEPT HST-V102) ...FILM 0.012MF 5% 50V
	1-136-155-00	(HST-V102) ...FILM 0.015MF 5% 50V
C067	1-123-382-00	ELECT 3.3MF 20% 50V
C068	1-123-382-00	ELECT 3.3MF 20% 50V
C070	1-161-379-00	CERAMIC 0.01MF 30% 16V
C071	1-123-875-11	ELECT 10MF 20% 50V
C072	1-161-379-00	CERAMIC 0.01MF 30% 16V
C073	1-124-463-00	ELECT 0.1MF 20% 50V
C074	1-124-927-11	ELECT 4.7MF 20% 50V
C075	1-161-379-00	CERAMIC 0.01MF 30% 16V
C076	1-126-176-11	ELECT 220MF 20% 10V
C077	1-161-379-00	CERAMIC 0.01MF 30% 16V
C078	1-162-282-31	CERAMIC 100PF 10% 50V
C090	1-161-379-00	CERAMIC 0.01MF 30% 16V
C091	1-161-379-00	CERAMIC 0.01MF 30% 16V
C092	1-161-379-00	CERAMIC 0.01MF 30% 16V
C093	1-161-379-00	CERAMIC 0.01MF 30% 16V
C094	1-124-477-11	ELECT 47MF 20% 16V
C095	1-162-211-31	(EXCEPT HST-V102) ...CERAMIC 33PF 5% 50V
C100	1-101-005-00	CERAMIC 0.022MF 50V
C101	1-102-961-00	CERAMIC 27PF 5% 50V
C102	1-102-961-00	CERAMIC 27PF 5% 50V
C103	1-161-494-00	(EXCEPT HST-V102) ...CERAMIC 0.022MF 25V
C104	1-136-173-00	(EXCEPT HST-V102) ...FILM 0.47MF 5% 50V
C105	1-124-463-00	(EXCEPT HST-V102) ...ELECT 0.1MF 20% 50V
C106	1-124-925-11	ELECT 2.2MF 20% 50V
C107	1-124-463-00	ELECT 0.1MF 20% 50V
C108	1-161-379-00	CERAMIC 0.01MF 30% 16V
C109	1-161-379-00	CERAMIC 0.01MF 30% 16V
C110	1-124-477-11	ELECT 47MF 20% 16V
C198	1-161-494-00	CERAMIC 0.022MF 25V

Ref.No.	Part No.	Description			
C199	1-161-494-00	CERAMIC	0.022MF	25V	
C201	1-124-477-11	ELECT	47MF	20%	16V
C202	1-162-294-31	(EXCEPT HMK-V102) ...CERAMIC	0.001MF	10%	50V
C203	1-161-379-00	CERAMIC	0.01MF	30%	16V
C204	1-124-791-11	ELECT	1MF	20%	50V
C212	1-161-379-00	CERAMIC	0.01MF	30%	16V
C213	1-161-379-00	CERAMIC	0.01MF	30%	16V
C221	1-125-486-11	CAP,DOUBLE LAYERS	0.22F		5.5V
C290	1-161-379-00	CERAMIC	0.01MF	30%	16V
C301	1-162-292-31	CERAMIC	680PF	10%	50V
C303	1-136-157-00	FILM	0.022MF	5%	50V
C304	1-126-101-11	ELECT	100MF	20%	16V
C305	1-124-925-11	ELECT	2.2MF	20%	50V
C306	1-162-292-31	CERAMIC	680PF	10%	50V
C308	1-136-157-00	FILM	0.022MF	5%	50V
C309	1-126-101-11	ELECT	100MF	20%	16V
C310	1-124-925-11	ELECT	2.2MF	20%	50V
C311	1-130-479-00	MYLAR	0.0047MF	5%	50V
C312	1-162-289-31	CERAMIC	390PF	10%	50V
C313	1-126-176-11	ELECT	220MF	20%	10V
C314	1-124-927-11	ELECT	4.7MF	20%	50V
C315	1-131-587-11	TANTALUM	0.68MF	10%	35V
C316	1-124-925-11	ELECT	2.2MF	20%	50V
C318	1-124-925-11	ELECT	2.2MF	20%	50V
C319	1-124-925-11	ELECT	2.2MF	20%	50V
C351	1-162-292-31	CERAMIC	680PF	10%	50V
C353	1-136-157-00	FILM	0.022MF	5%	50V
C354	1-126-101-11	ELECT	100MF	20%	16V
C355	1-124-925-11	ELECT	2.2MF	20%	50V
C356	1-162-292-31	CERAMIC	680PF	10%	50V
C358	1-136-157-00	FILM	0.022MF	5%	50V
C359	1-126-101-11	ELECT	100MF	20%	16V
C360	1-124-925-11	ELECT	2.2MF	20%	50V
C361	1-130-479-00	MYLAR	0.0047MF	5%	50V
C362	1-162-289-31	CERAMIC	390PF	10%	50V
C363	1-126-176-11	ELECT	220MF	20%	10V
C364	1-124-927-11	ELECT	4.7MF	20%	50V
C365	1-131-587-11	TANTALUM	0.68MF	10%	35V
C366	1-124-925-11	ELECT	2.2MF	20%	50V
C368	1-124-925-11	ELECT	2.2MF	20%	50V
C369	1-124-925-11	ELECT	2.2MF	20%	50V
C390	1-124-927-11	ELECT	4.7MF	20%	50V
C391	1-124-927-11	ELECT	4.7MF	20%	50V
C392	1-123-875-11	ELECT	10MF	20%	50V
C401	1-136-159-00	FILM	0.033MF	5%	50V
C402	1-124-925-11	ELECT	2.2MF	20%	50V
C403	1-124-925-11	ELECT	2.2MF	20%	50V
C404	1-136-153-00	FILM	0.01MF	5%	50V
C405	1-130-472-00	MYLAR	0.0012MF	5%	50V
C406	1-136-153-00	FILM	0.01MF	5%	50V
C407	1-136-273-91	FILM	75PF	5%	630V
C408	1-136-271-00	FILM	56PF	5%	630V
C409	1-162-280-31	CERAMIC	82PF	10%	50V
C410	1-162-284-31	CERAMIC	150PF	10%	50V
C451	1-136-159-00	FILM	0.033MF	5%	50V
C452	1-124-925-11	ELECT	2.2MF	20%	50V
C453	1-124-925-11	ELECT	2.2MF	20%	50V
C454	1-136-153-00	FILM	0.01MF	5%	50V
C455	1-130-472-00	MYLAR	0.0012MF	5%	50V

Ref.No.	Part No.	Description			
C456	1-136-153-00	FILM	0.01MF	5%	50V
C457	1-136-273-91	FILM	75PF	5%	630V
C458	1-136-271-00	FILM	56PF	5%	630V
C459	1-162-280-31	CERAMIC	82PF	10%	50V
C460	1-162-284-31	CERAMIC	150PF	10%	50V
C501	1-124-925-11	ELECT	2.2MF	20%	50V
C502	1-136-562-11	FILM	0.0082MF	5%	630V
C505	1-130-482-00	MYLAR	0.0082MF	5%	50V
C506	1-130-482-00	MYLAR	0.0082MF	5%	50V
C507	1-130-478-00	MYLAR	0.0039MF	5%	50V
C508	1-130-478-00	MYLAR	0.0039MF	5%	50V
C509	1-124-465-00	ELECT	0.47MF	20%	50V
C510	1-126-103-11	ELECT	470MF	20%	16V
C511	1-124-925-11	ELECT	2.2MF	20%	50V
C551	1-123-875-11	ELECT	10MF	20%	50V
C552	1-123-875-11	ELECT	10MF	20%	50V
C553	1-123-875-11	ELECT	10MF	20%	50V
C554	1-123-875-11	ELECT	10MF	20%	50V
C555	1-124-927-11	ELECT	4.7MF	20%	50V
C556	1-124-791-11	ELECT	1MF	20%	50V
C557	1-124-360-00	ELECT	1000MF	20%	16V
C601	1-124-925-11	ELECT	2.2MF	20%	50V
C602	1-162-282-31	CERAMIC	100PF	10%	50V
C603	1-162-282-31	CERAMIC	100PF	10%	50V
C604	1-124-477-11	ELECT	47MF	20%	16V
C605	1-161-377-00	CERAMIC	0.0047MF	20%	16V
C606	1-161-374-11	CERAMIC	0.0015MF	20%	16V
C607	1-124-464-11	ELECT	0.22MF	20%	50V
C608	1-124-477-11	ELECT	47MF	20%	16V
C609	1-124-925-11	ELECT	2.2MF	20%	50V
C610	1-124-477-11	ELECT	47MF	20%	16V
C651	1-124-925-11	ELECT	2.2MF	20%	50V
C652	1-162-282-31	CERAMIC	100PF	10%	50V
C653	1-162-282-31	CERAMIC	100PF	10%	50V
C654	1-124-477-11	ELECT	47MF	20%	16V
C655	1-161-377-00	CERAMIC	0.0047MF	20%	16V
C656	1-161-374-11	CERAMIC	0.0015MF	20%	16V
C657	1-124-464-11	ELECT	0.22MF	20%	50V
C658	1-124-477-11	ELECT	47MF	20%	16V
C659	1-124-925-11	ELECT	2.2MF	20%	50V
C660	1-124-477-11	ELECT	47MF	20%	16V
C701	1-124-925-11	ELECT	2.2MF	20%	50V
C702	1-124-477-11	ELECT	47MF	20%	16V
C703	1-162-282-31	CERAMIC	100PF	10%	50V
C704	1-124-925-11	ELECT	2.2MF	20%	50V
C705	1-124-464-11	ELECT	0.22MF	20%	50V
C706	1-136-161-00	FILM	0.047MF	5%	50V
C707	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C708	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C709	1-161-375-00	CERAMIC	0.0022MF	20%	16V
C710	1-162-294-31	CERAMIC	0.001MF	10%	50V
C711	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C712	1-130-482-00	MYLAR	0.0082MF	5%	50V
C713	1-161-327-00	CERAMIC	0.0033MF	20%	16V
C714	1-102-120-00	CERAMIC	0.0018MF	10%	50V
C715	1-124-925-11	ELECT	2.2MF	20%	50V
C716	1-162-282-31	CERAMIC	100PF	10%	50V

Note:
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description			
C725	1-136-153-00	(EXCEPT HMK-V102) ...FILM	0.01MF	5%	50V
C751	1-124-925-11	ELECT	2.2MF	20%	50V
C752	1-124-477-11	ELECT	47MF	20%	16V
C753	1-162-282-31	CERAMIC	100PF	10%	50V
C754	1-124-925-11	ELECT	2.2MF	20%	50V
C755	1-124-464-11	ELECT	0.22MF	20%	50V
C756	1-136-161-00	FILM	0.047MF	5%	50V
C757	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C758	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C759	1-161-375-00	CERAMIC	0.0022MF	20%	16V
C760	1-162-294-31	CERAMIC	0.001MF	10%	50V
C761	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C762	1-130-482-00	MYLAR	0.0082MF	5%	50V
C763	1-161-327-00	CERAMIC	0.0033MF	20%	16V
C764	1-102-120-00	CERAMIC	0.0018MF	10%	50V
C765	1-124-925-11	ELECT	2.2MF	20%	50V
C766	1-162-282-31	CERAMIC	100PF	10%	50V
C801	1-124-925-11	ELECT	2.2MF	20%	50V
C802	1-162-282-31	CERAMIC	100PF	10%	50V
C803	1-162-282-31	CERAMIC	100PF	10%	50V
C804	1-124-477-11	ELECT	47MF	20%	16V
C805	1-123-875-11	ELECT	10MF	20%	50V
C806	1-136-163-00	FILM	0.068MF	5%	50V
C807	1-136-163-00	FILM	0.068MF	5%	50V
C809	1-123-875-11	ELECT	10MF	20%	50V
C810	1-126-101-11	ELECT	100MF	20%	16V
C811	1-126-101-11	ELECT	100MF	20%	16V
C851	1-124-925-11	ELECT	2.2MF	20%	50V
C852	1-162-282-31	CERAMIC	100PF	10%	50V
C853	1-162-282-31	CERAMIC	100PF	10%	50V
C854	1-124-477-11	ELECT	47MF	20%	16V
C855	1-123-875-11	ELECT	10MF	20%	50V
C856	1-136-163-00	FILM	0.068MF	5%	50V
C857	1-136-163-00	FILM	0.068MF	5%	50V
C859	1-123-875-11	ELECT	10MF	20%	50V
C901	1-102-394-11	CERAMIC	0.01MF		250V
C902	1-126-413-11	ELECT	330MF	20%	35V
C903	1-126-413-11	ELECT	330MF	20%	35V
C904	1-124-477-11	ELECT	47MF	20%	16V
C905	1-124-477-11	ELECT	47MF	20%	16V
C906	1-124-360-00	ELECT	1000MF	20%	16V
C907	1-124-360-00	ELECT	1000MF	20%	16V
C908	1-124-477-11	ELECT	47MF	20%	16V
C909	1-124-477-11	ELECT	47MF	20%	16V
C910	1-124-473-11	ELECT	1000MF	20%	10V
C911	1-124-473-11	ELECT	1000MF	20%	10V
C912	1-124-925-11	ELECT	2.2MF	20%	50V
C913	1-124-463-00	ELECT	0.1MF	20%	50V
C914	1-126-103-11	ELECT	470MF	20%	16V
C915	1-161-744-00	CERAMIC	0.01MF		400V
C991	1-136-169-00	(AEP)...FILM	0.22MF	5%	50V
C992	1-136-169-00	(AEP)...FILM	0.22MF	5%	50V
CF001	1-567-389-11	FILTER, CERAMIC			
CF002	1-567-389-11	FILTER, CERAMIC			
CF051	1-577-075-11	OSCILLATOR, CERAMIC			

Ref.No.	Part No.	Description
CN301	*1-564-506-11	PLUG, CONNECTOR 3P
CN302	*1-564-509-11	PLUG, CONNECTOR 6P
CN501	*1-564-505-11	PLUG, CONNECTOR 2P
CN502	*1-564-340-00	PIN, CONNECTOR 6P
CN503	*1-506-988-11	PIN, CONNECTOR (PC BOARD) 6P
CN504	*1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P
CN601	*1-506-990-11	PIN, CONNECTOR (PC BOARD) 8P
CN602	*1-564-508-11	(HMK-V82/V102)...PLUG, CONNECTOR 5P
CN801	*1-506-708-11	PLUG, CONNECTOR (2.5MM) 5P
CN901	*1-506-707-11	PLUG, CONNECTOR (2.5MM) 3P
CN902	*1-506-989-11	PIN, CONNECTOR (PC BOARD) 7P
CNJ601	1-569-130-11	JACK, PIN 2P
CNJ602	1-569-130-11	(HST-V102/V202)...JACK, PIN 2P
CNJ604	*1-564-358-00	(HST-V102/V202)...PIN, CONNECTOR 3P
CNJ801	1-569-113-11	JACK, LARGE TYPE
CNJ802	1-537-265-11	TERMINAL BOARD
CNJ803	1-569-130-11	(EXCEPT HST-V102)...JACK, PIN 2P (SORROUND)
CNP101	*1-506-990-11	PIN, CONNECTOR (PC BOARD) 8P
△ CNP901	1-551-478-00	(HST-V102)...CORD, POWER
△ CNP901	1-555-750-00	(AEP).....CORD, POWER
△ CNP901	1-556-035-00	(UK).....CORD, POWER
D021	8-719-912-20	(EXCEPT HST-V102)...DIODE 1SS120
D101	8-719-933-54	DIODE HZS9A2L
D201	8-719-912-20	DIODE 1SS120
D202	8-719-912-20	DIODE 1SS120
D203	8-719-912-20	DIODE 1SS120
D204	8-719-912-20	DIODE 1SS120
D206	8-719-912-20	(HST-V102)...DIODE 1SS120
D208	8-719-912-20	(HST-V102)...DIODE 1SS120
D211	8-719-912-20	DIODE 1SS120
D221	8-719-912-20	DIODE 1SS120
D222	8-719-912-20	DIODE 1SS120
D223	8-719-912-20	DIODE 1SS120
D226	8-719-301-38	DIODE SEL2210S-C
D227	8-719-301-38	DIODE SEL2210S-C
D228	8-719-301-38	DIODE SEL2210S-C
D229	8-719-301-38	DIODE SEL2210S-C
D230	8-719-312-73	DIODE SEL4B14A-D
D231	8-719-312-73	DIODE SEL4B14A-D
D232	8-719-312-73	DIODE SEL4B14A-D
D233	8-719-312-73	DIODE SEL4B14A-D
D234	8-719-312-73	DIODE SEL4B14A-D
D235	8-719-312-73	DIODE SEL4B14A-D
D236	8-719-312-73	DIODE SEL4B14A-D
D237	8-719-312-73	DIODE SEL4B14A-D
D238	8-719-312-73	DIODE SEL4B14A-D
D239	8-719-312-73	DIODE SEL4B14A-D
D240	8-719-301-38	(EXCEPT HMK-V102)...DIODE SEL2210S-C
D501	8-719-912-20	DIODE 1SS120
D502	8-719-912-20	DIODE 1SS120
D503	8-719-912-20	DIODE 1SS120
D551	8-719-912-20	DIODE 1SS120
D552	8-719-912-20	DIODE 1SS120
D553	8-719-912-20	DIODE 1SS120

Note:

The components identified by mark **△** or dotted line with mark **△** are critical for safety. Replace only with part number specified.

Note:

Les composants identifiés par une marque **△** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note:
The components identified by mark **A** or dotted line with mark **A** are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque **A** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description
D554	8-719-912-20	DIODE 1SS120
D555	8-719-912-20	DIODE 1SS120
D556	8-719-912-20	DIODE 1SS120
D557	8-719-912-20	DIODE 1SS120
D558	8-719-912-20	DIODE 1SS120
D559	8-719-912-20	DIODE 1SS120
D560	8-719-912-20	DIODE 1SS120
D561	8-719-912-20	DIODE 1SS120
D562	8-719-912-20	DIODE 1SS120
D563	8-719-912-20	DIODE 1SS120
D564	8-719-912-20	DIODE 1SS120
D565	8-719-912-20	DIODE 1SS120
D566	8-719-912-20	DIODE 1SS120
D567	8-719-912-20	DIODE 1SS120
D596	8-719-301-38	DIODE SEL2210S-C
D597	8-719-301-44	DIODE SEL2410E-C
D598	8-719-301-52	DIODE SEL2810A-C
D801	8-719-912-20	DIODE 1SS120
D802	8-719-912-20	DIODE 1SS120
D901	A 8-719-312-09	DIODE RBA-402
D902	8-719-001-67	DIODE UZL-12L3
D903	8-719-001-67	DIODE UZL-12L3
D904	8-719-933-50	DIODE HZS7C2L
D905	8-719-933-50	DIODE HZS7C2L
F901	A 1-532-237-00	(AEP,UK)...FUSE, TIME LAG (3.15A)
F901	A 1-576-107-11	(HST-V102)...FUSE (3.15A)
F902	A 1-576-107-11	(HST-V102)...FUSE (3.15A)
F902	A 1-532-237-00	(AEP,UK)...FUSE, TIME LAG (3.15A)
F903	A 1-532-775-11	(HST-V102)..FUSE, MICRO(SECONDARY)800mA
F904	A 1-532-775-11	(HST-V102)..FUSE, MICRO(SECONDARY)800mA
FE001	1-465-006-11	FRONT END (FM) (2 GANG)
FE021	1-236-461-11	(HST-V102)...ENCAPSULATED COMPONENT
FE021	1-236-462-11	(EXCEPT HST-V102)...ENCAPSULATED COMPONENT
FE022	1-236-463-11	(EXCEPT HST-V102)...ENCAPSULATED COMPONENT
HE101	1-543-673-11	(DECK B)...HEAD, MAGNETIC (ERASE)
HP101	1-543-672-11	(DECK A)...HEAD, MAGNETIC (REC/PB)
HRP101	1-543-672-11	(DECK B)...HEAD, MAGNETIC (REC/PB)
IC051	8-759-822-14	IC LA1851N-S
IC101	8-759-820-91	IC LC7218
IC201	8-759-148-93	IC UPD75308GF-491-3B9
IC202	8-749-920-83	(EXCEPT HMK-V102)...IC GP1U52XB
IC301	8-759-111-44	IC UPC4570C-1
IC302	8-759-111-44	IC UPC4570C-1
IC303	8-759-000-49	IC MC14066BCP
IC304	8-752-031-67	IC CXA1100P
IC401	8-759-601-02	IC M5218P
IC501	8-759-140-11	IC TC4011BP
IC502	8-759-240-01	IC TC4001BP
IC601	8-759-601-02	IC M5218P
IC602	8-759-208-08	IC TC4052BPHB
IC701	8-759-601-02	IC M5218P
IC702	8-759-601-02	IC M5218P
IC703	8-759-820-62	(EXCEPT HMK-V102)...IC LB1639

Ref.No.	Part No.	Description
IC801	8-749-920-78	IC SI-18751
IC851	8-749-920-78	IC SI-18751
IC901	8-759-820-13	IC L78MR06
A ICP901	1-532-838-11	(EXCEPT HST-V102)...LINK, IC
A ICP902	1-532-838-11	(EXCEPT HST-V102)...LINK, IC
IFT071	1-404-713-11	TRANSFORMER, IF
L021	1-410-524-41	(EXCEPT HST-V102)...INDUCTOR 220UH
L071	1-407-500-00	(EXCEPT HST-V102)...INDUCTOR 4.7MMH
L071	1-410-686-11	(HST-V102)...INDUCTOR 1MMH
L401	1-410-775-21	INDUCTOR 10MMH
L402	1-410-780-11	INDUCTOR 27MMH
L451	1-410-775-21	INDUCTOR 10MMH
L452	1-410-780-11	INDUCTOR 27MMH
L501	1-410-524-41	INDUCTOR 220UH
LCD201	1-808-810-11	DISPLAY PANEL, LIQUID CRYSTAL
LPF061	1-235-164-00	FILTER, LOW PASS
LPF066	1-235-164-00	FILTER, LOW PASS
M3	4-895-034-01	MOTOR ASSY (PLAYER)
M101	X-3358-201-1	(TCM-180VW-N1)...MOTOR (W) ASSY
M101	X-3390-803-1	(TCM-YMW47C-97)...MOTOR ASSY
Q001	8-729-620-19	TRANSISTOR 2SC2724-CD
Q021	8-729-900-80	(EXCEPT HST-V102)...TRANSISTOR DTC114ES
Q022	8-729-900-80	(EXCEPT HST-V102)...TRANSISTOR DTC114ES
Q023	8-729-900-80	(EXCEPT HST-V102)...TRANSISTOR DTC114ES
Q024	8-729-821-04	(EXCEPT HST-V102)...TRANSISTOR 2SA1317-STU
Q025	8-729-620-05	(EXCEPT HST-V102)...TRANSISTOR 2SC2603-EF
Q026	8-729-900-80	(EXCEPT HST-V102)...TRANSISTOR DTC114ES
Q061	8-729-620-05	TRANSISTOR 2SC2603-EF
Q066	8-729-620-05	TRANSISTOR 2SC2603-EF
Q091	8-729-900-61	TRANSISTOR DTA114ES
Q092	8-729-900-80	TRANSISTOR DTC114ES
Q101	8-729-202-67	(EXCEPT HST-V102)..TRANSISTOR 2SK246GR3
Q102	8-729-201-84	(EXCEPT HST-V102)..TRANSISTOR 2SC3112B
Q103	8-729-202-67	TRANSISTOR 2SK246GR3
Q104	8-729-201-84	TRANSISTOR 2SC3112B
Q105	8-729-620-05	TRANSISTOR 2SC2603-EF
Q201	8-729-900-61	(EXCEPT HMK-V102)...TRANSISTOR DTA114ES
Q202	8-729-620-05	TRANSISTOR 2SC2603-EF
Q203	8-729-900-36	TRANSISTOR DTC124ES
Q281	8-729-900-89	TRANSISTOR DTC144ES
Q282	8-729-821-04	TRANSISTOR 2SA1317-STU
Q301	8-729-900-89	TRANSISTOR DTC144ES
Q302	8-729-620-05	TRANSISTOR 2SC2603-EF
Q303	8-729-620-05	TRANSISTOR 2SC2603-EF
Q351	8-729-900-89	TRANSISTOR DTC144ES
Q352	8-729-620-05	TRANSISTOR 2SC2603-EF
Q353	8-729-620-05	TRANSISTOR 2SC2603-EF
Q401	8-729-900-89	TRANSISTOR DTC144ES
Q451	8-729-900-89	TRANSISTOR DTC144ES
Q501	8-729-900-61	TRANSISTOR DTA114ES
Q502	8-729-281-52	TRANSISTOR 2SC1815Y
Q503	8-729-194-57	TRANSISTOR 2SC945P
Q504	8-729-194-57	TRANSISTOR 2SC945P

Ref.No.	Part No.	Description
Q505	8-729-620-05	TRANSISTOR 2SC2603-EF
Q551	8-729-620-05	TRANSISTOR 2SC2603-EF
Q552	8-729-900-89	TRANSISTOR DTC144ES
Q553	8-729-900-63	TRANSISTOR DTA124ES
Q554	8-729-620-05	TRANSISTOR 2SC2603-EF
Q555	8-729-821-04	TRANSISTOR 2SA1317-STU
Q701	8-729-620-05	TRANSISTOR 2SC2603-EF
Q702	8-729-141-26	TRANSISTOR 2SC3622A-LK
Q751	8-729-620-05	TRANSISTOR 2SC2603-EF
Q752	8-729-141-26	TRANSISTOR 2SC3622A-LK
Q801	8-729-620-05	TRANSISTOR 2SC2603-EF
Q802	8-729-620-05	TRANSISTOR 2SC2603-EF
Q803	8-729-620-05	TRANSISTOR 2SC2603-EF
Q804	8-729-620-05	TRANSISTOR 2SC2603-EF
Q901	8-729-920-98	TRANSISTOR 2SD1761-EF
Q902	8-729-920-97	TRANSISTOR 2SB1187-EF
Q903	8-729-920-98	TRANSISTOR 2SD1761-EF
Q904	8-729-920-97	TRANSISTOR 2SB1187-EF
R07	1-249-412-11	CARBON 390 5% 1/4W
R99	1-249-397-11	(HST-V102)...CARBON 22 5% 1/4W
R001	1-249-409-11	CARBON 220 5% 1/4W
R002	1-247-891-00	CARBON 330K 5% 1/4W
R003	1-249-411-11	CARBON 330 5% 1/4W
R010	1-249-401-11	CARBON 47 5% 1/4W F
R021	1-249-441-11	CARBON 100K 5% 1/4W
R022	1-249-425-11	(EXCEPT HST-V102) ...CARBON 4.7K 5% 1/4W
R023	1-249-429-11	(EXCEPT HST-V102) ...CARBON 10K 5% 1/4W
R024	1-249-429-11	(EXCEPT HST-V102) ...CARBON 10K 5% 1/4W
R025	1-249-434-11	(EXCEPT HST-V102) ...CARBON 27K 5% 1/4W
R026	1-249-433-11	(EXCEPT HST-V102) ...CARBON 22K 5% 1/4W
R027	1-249-413-11	(EXCEPT HST-V102) ...CARBON 470 5% 1/4W
R028	1-249-421-11	(EXCEPT HST-V102) ...CARBON 2.2K 5% 1/4W
R029	1-249-433-11	(EXCEPT HST-V102) ...CARBON 22K 5% 1/4W
R030	1-249-437-11	CARBON 47K 5% 1/4W
R031	1-249-441-11	(EXCEPT HST-V102) ...CARBON 100K 5% 1/4W
R032	1-249-437-11	(EXCEPT HST-V102) ...CARBON 47K 5% 1/4W
R033	1-247-903-00	(EXCEPT HST-V102) ...CARBON 1M 5% 1/4W
R034	1-249-433-11	(EXCEPT HST-V102) ...CARBON 22K 5% 1/4W
R051	1-249-417-11	CARBON 1K 5% 1/4W
R052	1-249-433-11	(EXCEPT HST-V102) ...CARBON 22K 5% 1/4W
R052	1-249-428-11	(HST-V102)...CARBON 8.2K 5% 1/4W

Note:
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description
R053	1-249-405-11	CARBON 100 5% 1/4W F
R054	1-249-435-11	CARBON 33K 5% 1/4W
R055	1-249-428-11	CARBON 8.2K 5% 1/4W
R056	1-249-432-11	CARBON 18K 5% 1/4W
R057	1-249-429-11	CARBON 10K 5% 1/4W
R058	1-249-418-11	CARBON 1.2K 5% 1/4W
R060	1-249-425-11	(EXCEPT HST-V102) ...CARBON 4.7K 5% 1/4W
R060	1-247-848-11	(HST-V102)...CARBON 5.1K 5% 1/4W
R061	1-247-895-00	CARBON 470K 5% 1/4W
R062	1-249-416-11	(EXCEPT HST-V102) ...CARBON 820 5% 1/4W
R062	1-249-418-11	(HST-V102)...CARBON 1.2K 5% 1/4W
R063	1-249-421-11	CARBON 2.2K 5% 1/4W
R064	1-249-423-11	CARBON 3.3K 5% 1/4W
R065	1-249-425-11	(EXCEPT HST-V102) ...CARBON 4.7K 5% 1/4W
R065	1-247-848-11	(HST-V102)...CARBON 5.1K 5% 1/4W
R066	1-247-895-00	CARBON 470K 5% 1/4W
R067	1-249-416-11	(EXCEPT HST-V102) ...CARBON 820 5% 1/4W
R067	1-249-418-11	(HST-V102)...CARBON 1.2K 5% 1/4W
R068	1-249-421-11	CARBON 2.2K 5% 1/4W
R069	1-249-423-11	CARBON 3.3K 5% 1/4W
R070	1-249-437-11	CARBON 47K 5% 1/4W
R072	1-249-437-11	CARBON 47K 5% 1/4W
R090	1-249-429-11	CARBON 10K 5% 1/4W
R091	1-249-429-11	CARBON 10K 5% 1/4W
R092	1-249-425-11	CARBON 4.7K 5% 1/4W
R093	1-249-417-11	CARBON 1K 5% 1/4W
R094	1-249-417-11	CARBON 1K 5% 1/4W
R095	1-249-429-11	CARBON 10K 5% 1/4W
R096	1-249-429-11	CARBON 10K 5% 1/4W
R097	1-249-401-11	CARBON 47 5% 1/4W F
R098	1-249-423-11	CARBON 3.3K 5% 1/4W
R101	1-249-405-11	CARBON 100 5% 1/4W F
R102	1-249-423-11	(EXCEPT HST-V102) ...CARBON 3.3K 5% 1/4W
R103	1-249-421-11	(EXCEPT HST-V102) ...CARBON 2.2K 5% 1/4W
R104	1-249-433-11	(EXCEPT HST-V102) ...CARBON 22K 5% 1/4W
R105	1-249-425-11	(EXCEPT HST-V102) ...CARBON 4.7K 5% 1/4W
R106	1-249-414-11	(EXCEPT HST-V102) ...CARBON 560 5% 1/4W
R107	1-249-417-11	(EXCEPT HST-V102) ...CARBON 1K 5% 1/4W
R108	1-249-410-11	(EXCEPT HST-V102) ...CARBON 270 5% 1/4W
R109	1-249-405-11	(EXCEPT HST-V102) ...CARBON 100 5% 1/4W
R110	1-249-423-11	CARBON 3.3K 5% 1/4W
R111	1-249-425-11	CARBON 4.7K 5% 1/4W
R112	1-249-421-11	CARBON 2.2K 5% 1/4W
R113	1-249-425-11	CARBON 4.7K 5% 1/4W
R114	1-249-425-11	CARBON 4.7K 5% 1/4W
R115	1-249-414-11	CARBON 560 5% 1/4W

Ref.No.	Part No.	Description				
R116	1-249-417-11	CARBON	1K	5%	1/4W	
R117	1-249-410-11	CARBON	270	5%	1/4W	
R118	1-249-405-11	CARBON	100	5%	1/4W	
R121	1-249-417-11	CARBON	1K	5%	1/4W	
R122	1-249-417-11	CARBON	1K	5%	1/4W	
R123	1-249-417-11	CARBON	1K	5%	1/4W	
R124	1-249-417-11	CARBON	1K	5%	1/4W	
R125	1-249-417-11	CARBON	1K	5%	1/4W	
R126	1-249-441-11	CARBON	100K	5%	1/4W	
R127	1-249-429-11	CARBON	10K	5%	1/4W	
R201	1-249-412-11	(EXCEPT HMK-V102) ...CARBON	390	5%	1/4W	
R203	1-249-417-11	CARBON	1K	5%	1/4W	
R204	1-249-417-11	CARBON	1K	5%	1/4W	
R206	1-249-433-11	CARBON	22K	5%	1/4W	
R207	1-249-417-11	CARBON	1K	5%	1/4W	
R208	1-249-417-11	CARBON	1K	5%	1/4W	
R209	1-249-437-11	CARBON	47K	5%	1/4W	
R210	1-249-437-11	CARBON	47K	5%	1/4W	
R211	1-249-437-11	CARBON	47K	5%	1/4W	
R212	1-249-437-11	CARBON	47K	5%	1/4W	
R213	1-249-412-11	CARBON	390	5%	1/4W	
R214	1-249-412-11	CARBON	390	5%	1/4W	
R215	1-249-412-11	CARBON	390	5%	1/4W	
R216	1-249-412-11	CARBON	390	5%	1/4W	
R218	1-249-437-11	CARBON	47K	5%	1/4W	
R219	1-249-437-11	CARBON	47K	5%	1/4W	
R220	1-249-431-11	CARBON	15K	5%	1/4W	
R222	1-249-417-11	CARBON	1K	5%	1/4W	
R223	1-249-417-11	CARBON	1K	5%	1/4W	
R224	1-249-437-11	CARBON	47K	5%	1/4W	
R226	1-249-417-11	CARBON	1K	5%	1/4W	
R227	1-249-437-11	CARBON	47K	5%	1/4W	
R230	1-249-408-11	CARBON	180	5%	1/4W	
R231	1-249-408-11	CARBON	180	5%	1/4W	
R281	1-249-433-11	CARBON	22K	5%	1/4W	
R282	1-249-433-11	CARBON	22K	5%	1/4W	
R290	1-249-417-11	CARBON	1K	5%	1/4W	
R292	1-249-417-11	CARBON	1K	5%	1/4W	
R301	1-247-889-00	CARBON	270K	5%	1/4W	
R302	1-249-404-00	CARBON	82	5%	1/4W	
R303	1-247-882-11	CARBON	130K	5%	1/4W	
R304	1-249-426-11	CARBON	5.6K	5%	1/4W	
R305	1-249-409-11	CARBON	220	5%	1/4W	
R306	1-247-889-00	CARBON	270K	5%	1/4W	
R307	1-249-404-00	CARBON	82	5%	1/4W	
R308	1-247-882-11	CARBON	130K	5%	1/4W	
R309	1-249-426-11	CARBON	5.6K	5%	1/4W	
R310	1-249-409-11	CARBON	220	5%	1/4W	
R311	1-249-430-11	CARBON	12K	5%	1/4W	
R312	1-249-431-11	CARBON	15K	5%	1/4W	
R313	1-247-889-00	CARBON	270K	5%	1/4W	
R314	1-249-401-11	CARBON	47	5%	1/4W	
R315	1-249-401-11	CARBON	47	5%	1/4W	
R316	1-249-437-11	CARBON	47K	5%	1/4W	
R317	1-247-838-00	CARBON	2K	5%	1/4W	
R318	1-249-421-11	CARBON	2.2K	5%	1/4W	
R319	1-249-425-11	CARBON	4.7K	5%	1/4W	

Ref.No.	Part No.	Description				
R320	1-249-429-11	CARBON	10K	5%	1/4W	
R321	1-249-417-11	CARBON	1K	5%	1/4W	
R322	1-249-429-11	CARBON	10K	5%	1/4W	
R323	1-249-429-11	CARBON	10K	5%	1/4W	
R324	1-249-422-11	CARBON	2.7K	5%	1/4W	
R325	1-249-425-11	CARBON	4.7K	5%	1/4W	
R326	1-249-441-11	CARBON	100K	5%	1/4W	
R327	1-249-441-11	CARBON	100K	5%	1/4W	
R351	1-247-889-00	CARBON	270K	5%	1/4W	
R352	1-249-404-00	CARBON	82	5%	1/4W	
R353	1-247-882-11	CARBON	130K	5%	1/4W	
R354	1-249-426-11	CARBON	5.6K	5%	1/4W	
R355	1-249-409-11	CARBON	220	5%	1/4W	
R356	1-247-889-00	CARBON	270K	5%	1/4W	
R357	1-249-404-00	CARBON	82	5%	1/4W	
R358	1-247-882-11	CARBON	130K	5%	1/4W	
R359	1-249-426-11	CARBON	5.6K	5%	1/4W	
R360	1-249-409-11	CARBON	220	5%	1/4W	
R361	1-249-430-11	CARBON	12K	5%	1/4W	
R362	1-249-431-11	CARBON	15K	5%	1/4W	
R363	1-247-889-00	CARBON	270K	5%	1/4W	
R364	1-249-401-11	CARBON	47	5%	1/4W	
R365	1-249-401-11	CARBON	47	5%	1/4W	
R366	1-249-437-11	CARBON	47K	5%	1/4W	
R367	1-247-838-00	CARBON	2K	5%	1/4W	
R368	1-249-421-11	CARBON	2.2K	5%	1/4W	
R369	1-249-425-11	CARBON	4.7K	5%	1/4W	
R370	1-249-429-11	CARBON	10K	5%	1/4W	
R371	1-249-417-11	CARBON	1K	5%	1/4W	
R372	1-249-429-11	CARBON	10K	5%	1/4W	
R373	1-249-429-11	CARBON	10K	5%	1/4W	
R374	1-249-422-11	CARBON	2.7K	5%	1/4W	
R375	1-249-425-11	CARBON	4.7K	5%	1/4W	
R376	1-249-441-11	CARBON	100K	5%	1/4W	
R377	1-249-441-11	CARBON	100K	5%	1/4W	
R390	1-249-417-11	CARBON	1K	5%	1/4W	
R391	1-215-460-00	METAL	43K	1%	1/6W	
R392	1-249-437-11	CARBON	47K	5%	1/4W	
R393	1-249-417-11	CARBON	1K	5%	1/4W	
R401	1-249-435-11	CARBON	33K	5%	1/4W	
R402	1-247-876-11	CARBON	75K	5%	1/4W	
R403	1-249-422-11	CARBON	2.7K	5%	1/4W	
R404	1-249-410-11	CARBON	270	5%	1/4W	
R405	1-249-423-11	CARBON	3.3K	5%	1/4W	
R406	1-247-850-11	CARBON	6.2K	5%	1/4W	
R407	1-249-430-11	CARBON	12K	5%	1/4W	
R451	1-249-435-11	CARBON	33K	5%	1/4W	
R452	1-247-876-11	CARBON	75K	5%	1/4W	
R453	1-249-422-11	CARBON	2.7K	5%	1/4W	
R454	1-249-410-11	CARBON	270	5%	1/4W	
R455	1-249-423-11	CARBON	3.3K	5%	1/4W	
R456	1-247-850-11	CARBON	6.2K	5%	1/4W	
R457	1-249-430-11	CARBON	12K	5%	1/4W	
R501	1-249-401-11	CARBON	47	5%	1/4W	
R502	1-249-429-11	CARBON	10K	5%	1/4W	
R503	1-249-429-11	CARBON	10K	5%	1/4W	
R504	1-249-425-11	CARBON	4.7K	5%	1/4W	

Ref.No.	Part No.	Description				
R505	1-212-857-00	FUSIBLE	10	5%	1/4W	F
R506	1-249-434-11	CARBON	27K	5%	1/4W	
R507	1-249-434-11	CARBON	27K	5%	1/4W	
R508	1-249-429-11	CARBON	10K	5%	1/4W	
R509	1-249-417-11	CARBON	1K	5%	1/4W	
R551	1-247-850-11	CARBON	6.2K	5%	1/4W	
R552	1-249-440-11	CARBON	82K	5%	1/4W	
R553	1-249-433-11	CARBON	22K	5%	1/4W	
R554	1-249-429-11	CARBON	10K	5%	1/4W	
R555	1-249-437-11	CARBON	47K	5%	1/4W	
R556	1-249-409-11	CARBON	220	5%	1/4W	
R557	1-249-437-11	CARBON	47K	5%	1/4W	
R558	1-249-429-11	CARBON	10K	5%	1/4W	
R559	1-249-437-11	CARBON	47K	5%	1/4W	
R560	1-249-423-11	CARBON	3.3K	5%	1/4W	
R561	1-249-441-11	CARBON	100K	5%	1/4W	
R562	1-249-433-11	CARBON	22K	5%	1/4W	
R563	1-249-429-11	CARBON	10K	5%	1/4W	
R564	1-249-437-11	CARBON	47K	5%	1/4W	
R565	1-249-433-11	CARBON	22K	5%	1/4W	
R566	1-249-433-11	CARBON	22K	5%	1/4W	
R568	1-249-429-11	CARBON	10K	5%	1/4W	
R569	1-249-425-11	CARBON	4.7K	5%	1/4W	
R570	1-249-429-11	CARBON	10K	5%	1/4W	
R591	1-247-850-11	CARBON	6.2K	5%	1/4W	
R592	1-249-416-11	CARBON	820	5%	1/4W	
R596	1-249-413-11	CARBON	470	5%	1/4W	
R597	1-249-413-11	CARBON	470	5%	1/4W	
R598	1-249-413-11	CARBON	470	5%	1/4W	
R601	1-249-417-11	CARBON	1K	5%	1/4W	
R602	1-249-441-11	CARBON	100K	5%	1/4W	
R603	1-249-416-11	CARBON	820	5%	1/4W	
R604	1-247-897-11	CARBON	560K	5%	1/4W	
R605	1-249-437-11	CARBON	47K	5%	1/4W	
R606	1-249-409-11	CARBON	220	5%	1/4W	
R607	1-249-441-11	CARBON	100K	5%	1/4W	
R608	1-249-409-11	CARBON	220	5%	1/4W	
R610	1-249-429-11	CARBON	10K	5%	1/4W	
R611	1-249-441-11	CARBON	100K	5%	1/4W	
R612	1-249-417-11	CARBON	1K	5%	1/4W	
R613	1-249-417-11	CARBON	1K	5%	1/4W	
R614	1-249-433-11	CARBON	22K	5%	1/4W	
R615	1-249-433-11	CARBON	22K	5%	1/4W	
R651	1-249-417-11	CARBON	1K	5%	1/4W	
R652	1-249-441-11	CARBON	100K	5%	1/4W	
R653	1-249-416-11	CARBON	820	5%	1/4W	
R654	1-247-897-11	CARBON	560K	5%	1/4W	
R655	1-249-437-11	CARBON	47K	5%	1/4W	
R656	1-249-409-11	CARBON	220	5%	1/4W	
R657	1-249-441-11	CARBON	100K	5%	1/4W	
R658	1-249-409-11	CARBON	220	5%	1/4W	
R660	1-249-429-11	CARBON	10K	5%	1/4W	
R661	1-249-441-11	CARBON	100K	5%	1/4W	
R701	1-249-441-11	CARBON	100K	5%	1/4W	
R702	1-249-417-11	CARBON	1K	5%	1/4W	
R703	1-249-431-11	CARBON	15K	5%	1/4W	
R704	1-249-441-11	CARBON	100K	5%	1/4W	

Ref.No.	Part No.	Description				
R705	1-249-433-11	CARBON	22K	5%	1/4W	
R706	1-249-424-11	CARBON	3.9K	5%	1/4W	
R707	1-249-441-11	CARBON	100K	5%	1/4W	
R708	1-249-427-11	CARBON	6.8K	5%	1/4W	
R709	1-249-412-11	CARBON	390	5%	1/4W	
R710	1-249-436-11	CARBON	39K	5%	1/4W	
R711	1-247-897-11	CARBON	560K	5%	1/4W	
R712	1-249-438-11	CARBON	56K	5%	1/4W	
R713	1-249-436-11	CARBON	39K	5%	1/4W	
R714	1-249-434-11	CARBON	27K	5%	1/4W	
R715	1-249-434-11	CARBON	27K	5%	1/4W	
R716	1-249-432-11	CARBON	18K	5%	1/4W	
R717	1-249-432-11	CARBON	18K	5%	1/4W	
R718	1-249-430-11	CARBON	12K	5%	1/4W	
R719	1-249-430-11	CARBON	12K	5%	1/4W	
R720	1-249-428-11	CARBON	8.2K	5%	1/4W	
R721	1-249-428-11	CARBON	8.2K	5%	1/4W	
R722	1-247-897-11	CARBON	560K	5%	1/4W	
R723	1-249-421-11	CARBON	2.2K	5%	1/4W	
R724	1-249-425-11	CARBON	4.7K	5%	1/4W	
R725	1-249-433-11	CARBON	22K	5%	1/4W	
R726	1-249-433-11	CARBON	22K	5%	1/4W	
R727	1-249-433-11	CARBON	22K	5%	1/4W	
R751	1-249-441-11	CARBON	100K	5%	1/4W	
R752	1-249-417-11	CARBON	1K	5%	1/4W	
R754	1-249-441-11	CARBON	100K	5%	1/4W	
R755	1-249-433-11	CARBON	22K	5%	1/4W	
R756	1-249-424-11	CARBON	3.9K	5%	1/4W	
R757	1-249-441-11	CARBON	100K	5%	1/4W	
R758	1-249-427-11	CARBON	6.8K	5%	1/4W	
R759	1-249-412-11	CARBON	390	5%	1/4W	
R760	1-249-436-11	CARBON	39K	5%	1/4W	
R761	1-247-897-11	CARBON	560K	5%	1/4W	
R762	1-249-438-11	CARBON	56K	5%	1/4W	
R763	1-249-436-11	CARBON	39K	5%	1/4W	
R764	1-249-434-11	CARBON	27K	5%	1/4W	
R765	1-249-434-11	CARBON	27K	5%	1/4W	
R766	1-249-432-11	CARBON	18K	5%	1/4W	
R767	1-249-432-11	CARBON	18K	5%	1/4W	
R768	1-249-430-11	CARBON	12K	5%	1/4W	
R769	1-249-430-11	CARBON	12K	5%	1/4W	
R770	1-249-428-11	CARBON	8.2K	5%	1/4W	
R771	1-249-428-11	CARBON	8.2K	5%	1/4W	
R772	1-247-897-11	CARBON	560K	5%	1/4W	
R773	1-249-421-11	CARBON	2.2K	5%	1/4W	
R774	1-249-425-11	CARBON	4.7K	5%	1/4W	
R801	1-249-417-11	CARBON	1K	5%	1/4W	
R802	1-249-434-11	CARBON	27K	5%	1/4W	
R803	1-249-414-11	CARBON	560	5%	1/4W	
R804	1-249-434-11	CARBON	27K	5%	1/4W	
R805	1-249-389-11	CARBON	4.7	5%	1/4W	
R806	1-249-415-11	CARBON	680	5%	1/4W	
R807	1-249-415-11	CARBON	680	5%	1/4W	
R810	1-249-441-11	CARBON	100K	5%	1/4W	
R811	1-249-389-11	CARBON	4.7	5%	1/4W	
R812	1-249-438-11	CARBON	56K	5%	1/4W	
R813	1-249-438-11	CARBON	56K	5%	1/4W	

Note:
The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description
R851	1-249-417-11	CARBON 1K 5% 1/4W
R852	1-249-434-11	CARBON 27K 5% 1/4W
R853	1-249-414-11	CARBON 560 5% 1/4W
R854	1-249-434-11	CARBON 27K 5% 1/4W
R855	1-249-389-11	CARBON 4.7 5% 1/4W
R856	1-249-415-11	CARBON 680 5% 1/4W
R857	1-249-415-11	CARBON 680 5% 1/4W
R863	1-249-437-11	CARBON 47K 5% 1/4W
R901	1-249-422-11	CARBON 2.7K 5% 1/4W
R902	1-249-419-11	CARBON 1.5K 5% 1/4W
R903	1-249-419-11	CARBON 1.5K 5% 1/4W
R904	1-249-419-11	CARBON 1.5K 5% 1/4W
R910	1-202-725-00	(HST-V102)...SOLID 3.3M 10% 1/2W
RV071	1-238-601-11	RES, ADJ, CARBON, 22K (AM TUNED)
RV072	1-238-601-11	RES, ADJ, CARBON, 22K (FM TUNED)
RV301	1-238-600-11	RES, ADJ, CARBON 10K (PB LEVEL A,L)
RV302	1-238-600-11	RES, ADJ, CARBON 10K (PB LEVEL B,L)
RV303	1-238-600-11	RES, ADJ, CARBON 10K (REC LEVEL L)
RV351	1-238-600-11	RES, ADJ, CARBON 10K (PB LEVEL A,R)
RV352	1-238-600-11	RES, ADJ, CARBON 10K (PB LEVEL B,R)
RV353	1-238-600-11	RES, ADJ, CARBON 10K (REC LEVEL R)
RV401	1-238-603-11	RES, ADJ, CARBON 100K (BIAS CURRENT L)
RV451	1-238-603-11	RES, ADJ, CARBON 100K (BIAS CURRENT R)
RV701	1-238-830-21	RES, VAR, CARBON 100K/100K (SURROUND)
RV702	1-238-830-21	RES, VAR, CARBON 100K/100K (DBFB)
RV703	1-238-831-21	RES, VAR, SLIDE 250K/250K (100Hz)
RV704	1-238-831-21	RES, VAR, SLIDE 250K/250K (330Hz)
RV705	1-238-831-21	RES, VAR, SLIDE 250K/250K (1kHz)
RV706	1-238-831-21	RES, VAR, SLIDE 250K/250K (3.3kHz)
RV707	1-238-831-21	RES, VAR, SLIDE 250K/250K (10kHz)
RV708	1-238-829-21	(HMK-V102)
RV708	1-238-875-21	...RES, VAR, CARBON 100K/100K (VOLUME) (EXCEPT HMK-V102) ...RES, VAR, CARBON 100K/100K (VOLUME)
RY501	1-515-614-11	RELAY
RY801	1-515-533-11	RELAY
S101	1-570-715-11	(TCM-YMW47C-97)...SWITCH, LEAF
S102	1-570-430-11	(TCM-YMW47C-97)...SWITCH, LEAF
S102	1-571-736-11	(TCM-180VW-N1)...SWITCH, LEAF
S103	1-571-736-11	(TCM-180VW-N1)...SWITCH, LEAF
S103	1-572-040-11	(TCM-YMW47C-97)...SWITCH, LEAF
S104	1-570-715-11	(TCM-YMW47C-97)...SWITCH, LEAF
S105	1-570-430-11	(TCM-YMW47C-97)...SWITCH, LEAF
S105	1-571-736-11	(TCM-180VW-N1)...SWITCH, LEAF
S106	4-895-068-01	(HMK-V82/V102)...LIEF, SW (PLAYER)
S201	1-554-303-21	SWITCH, KEY BOARD (+)
S202	1-554-303-21	SWITCH, KEY BOARD (SHIFT)
S203	1-554-303-21	SWITCH, KEY BOARD (MEMORY)
S204	1-554-303-21	SWITCH, KEY BOARD (TUNER)
S205	1-554-303-21	SWITCH, KEY BOARD (-)
S206	1-554-303-21	SWITCH, KEY BOARD (1)
S207	1-554-303-21	SWITCH, KEY BOARD (2)
S208	1-554-303-21	SWITCH, KEY BOARD (CD)
S209	1-554-303-21	SWITCH, KEY BOARD (BAND SELECTOR)
S210	1-554-303-21	SWITCH, KEY BOARD (3)
S211	1-554-303-21	SWITCH, KEY BOARD (4)

Ref.No.	Part No.	Description
S212	1-554-303-21	SWITCH, KEY BOARD (TAPE)
S214	1-554-303-21	SWITCH, KEY BOARD (5)
S215	1-554-303-21	SWITCH, KEY BOARD (6)
S216	1-554-303-21	SWITCH, KEY BOARD (PHONO)
S501	1-572-149-21	SWITCH, PUSH (2 KEY)
S901	1-572-109-11	SWITCH, PUSH (AC POWER)(1 KEY)
T051	1-404-807-11	TRANSFORMER, DISCRIMINATOR
T501	1-433-349-11	TRANSFORMER, BIAS OSCILLATION
T901	1-449-873-21	(EXCEPT HST-V102)...TRANSFORMER, POWER
T901	1-450-046-21	(HST-V102:US)...TRANSFORMER, POWER
T901	1-450-143-11	(HST-V102:Canadian)...TRANSFORMER, POWER
TB001	1-537-264-11	TERMINAL BOARD (ANTENNA)
TN1	1-535-476-11	TERMINAL
TN2	1-535-476-11	TERMINAL
TP1	*1-560-061-00	PIN, CONNECTOR 3P (L,R)
TP2	*1-560-060-00	PIN, CONNECTOR 2P (NULL)
X201	1-567-775-11	VIBRATOR, CERAMIC (4.19MHz)
XT101	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)

ACCESSORY & PACKING MATERIAL

1-465-358-11	(HST-V102/V202)...COMMANDER, REMOTE (RM-S130)
1-501-374-11	ANTENNA, LOOP
2-181-754-01	(HST-V102/V202)...COVER, BATTERY
3-751-030-11	(HMK-V82)...MANUAL, INSTRUCTION
3-751-030-61	(HMK-V82)...MANUAL, INSTRUCTION
3-751-142-11	(HMK-V102:AEP)...MANUAL, INSTRUCTION
3-751-142-41	(HMK-V102:AEP)...MANUAL, INSTRUCTION
3-751-142-51	(HMK-V102:UK)...MANUAL, INSTRUCTION
4-921-934-01	SHEET, PROTECTION
*4-935-318-01	(HMK-V102)...CUSHION (UPPER)
*4-935-319-01	(HMK-V102)...CUSHION (LOWER)
*4-935-376-01	(HMK-V102:AEP)...INDIVIDUAL CARTON
*4-935-377-01	(HMK-V102:UK)...INDIVIDUAL CARTON

Note:
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

HMK-V82/V102
HST-V102/V202

SONY[®] SERVICE MANUAL

US Model
Canadian Model
HST-V102

AEP Model
HMK-V82/V102
HST-V202

UK Model
HMK-V102
HST-V202

SUPPLEMENT-1

File this supplement with the Service Manual.

1. HMK-V102 has been added for West Germany model and Italy model.
2. HST-V202 has been added for Italy model.

Refer to the Service Manual for related information not contained in this Supplement-1.

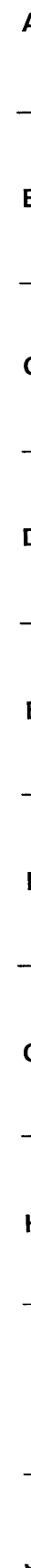
MECHANICAL PARTS LIST

(The difference between HMK-V102 (AEP) HST-V202 (AEP) and HST-V202 (IT) HMK-V102 (IT/WG)

Other information is the same as AEP model.

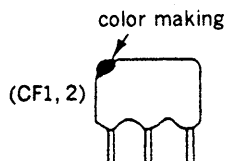
Page	HMK-V102 (AEP) HST-V202 (AEP)		HMK-V102 (IT/WG) HST-V202 (IT)	
	No.	Part No.	Part No.	Description
23	11	*4-930-776-31	*4-930-776-52	(HMK-V102 : WG)....PANEL, BACK
	11	*4-930-776-31	*4-930-776-62	(HMK-V102 : IT)....PANEL, BACK
	11	*4-935-315-11	*4-935-315-33	(HST-V202)....PANEL, BACK
	901	*1-633-063-11	*1-634-167-11	PC BOARD, IC-L
	902	*1-633-064-11	*1-634-168-11	PC BOARD, IC-R
	903	*A-4334-136-A	*A-3441-021-A	(HMK-V102)....MOUNTED PCB, MAIN
	903	*A-4334-468-A	*A-4341-027-A	(HST-V202)....MOUNTED PCB, MAIN
	904	*1-633-065-11	*1-634-170-11	PC BOARD, POWER (A)
24	51	A-4323-381-A	A-4323-465-B	LID (B) ASSY, CASSETTE
	52	A-4323-380-A	A-4323-466-A	LID (A) ASSY, CASSETTE
	905	*1-633-067-11	*1-634-174-11	PC BOARD, SW
	906	*1-633-066-11	*1-634-173-11	PC BOARD, LED
	907	*1-633-068-11	*1-634-175-11	PC BOARD, HP
	908	*A-4334-132-A	*A-4341-025-A	(HST-V202)....MOUNTED PCB, PANEL
	908	*A-4334-188-A	*A-4334-188-A	(HMK-V202 : WG)....MOUNTED PCB, PANEL
	908	*A-4334-188-A	*A-4331-019-A	(HMK-V102 : IT)....MOUNTED PCB, PANEL
	909	*1-633-070-11	*1-634-176-11	PC BOARD, VOL
	910	*1-633-072-11	*1-164-172-11	(HST-V202)....PC BOARD, MOTOR

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Note on Ceramic Filter (C1, 2) Replacement.

This set employs two ceramic filters (CF1, 2) which should have the same color marking to identify their center frequency. Therefore FM IF offset adjustment by jumpers (* A, * B) is necessary to match the center frequency of the ceramic filters used with FM intermediate frequency.



Note:

- All capacitors are in μF unless otherwise noted. pF: μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- $\triangle$: internal component.
- : nonflammable resistor.
- : fusible resistor.

Note:

The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety. Replace only with part number specified.

Note:

Les composants identifiés par une marque $\triangle$ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- **B+** : B+ Line
- **B-** : B- Line
- : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : FM
- Voltages are taken with a VOM (Input Impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
 : FM : PB (DECK A)

○ : Connected
× : not Connected

Ceramic filter		Mount		FM intermediate frequency (MHz)
Color mark	Center frequency (MHz)	IF-50K * B	IF+50K * A	
white	10.750	×	○	10.750
Red	10.700	×	×	10.700
Black	10.650	○	×	10.650

FM intermediate frequency is determined by the three types as shown above. Ceramic filters of same center frequency, i. e. of same color coding, should be used for CF1 and CF2.

When replacing the ceramic filters, perform the FM Di-scriminator Adjustment.

TEST-MODE BY DISPLAY-CONTROL MICROCOMPUTER (IC201)

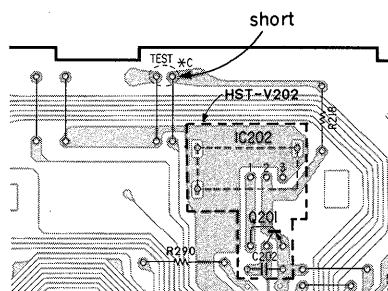
- If the power is turned on with the terminals of TEST (* C) shorted, all the segments of LCD201 will light.
- When a this unit is delivered or the capacitor (C221) which supplies backup power to IC201 is shorted. the following frequencies will be restored into the internal memories of IC201.
- After repair, return the memory to the preceding state (content).

FM		MW		LW	
1	87.5MHz	1	531kHz	1	153kHz
2	93.0MHz	2	603kHz	2	173kHz
3	98.0MHz	3	999kHz	3	216kHz
4	103.0MHz	4	1404kHz	4	261kHz
5	108.0MHz	5	1602kHz	5	279kHz
Last Channel	87.5MHz	Last Channel	531kHz	Last Channel	153kHz

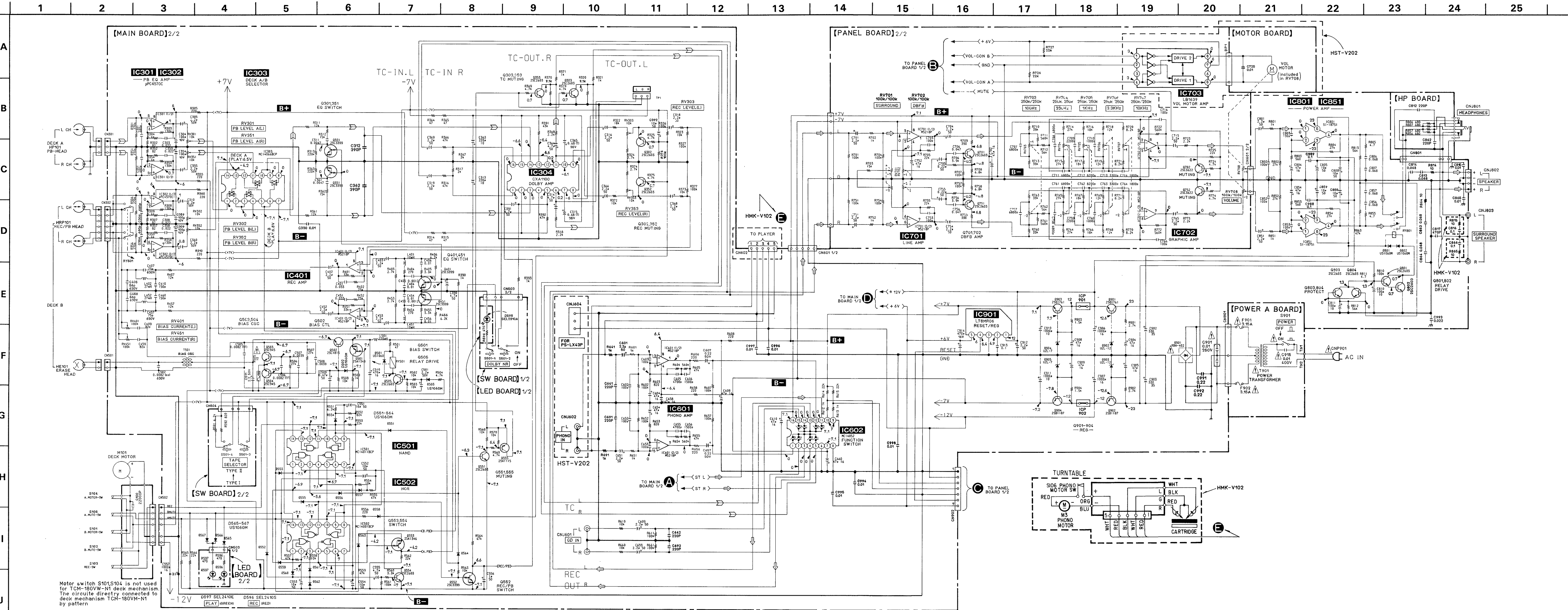
CONTROL BOARD

—Conductive Side—

PANEL BOARD Location (27, A) see page 14

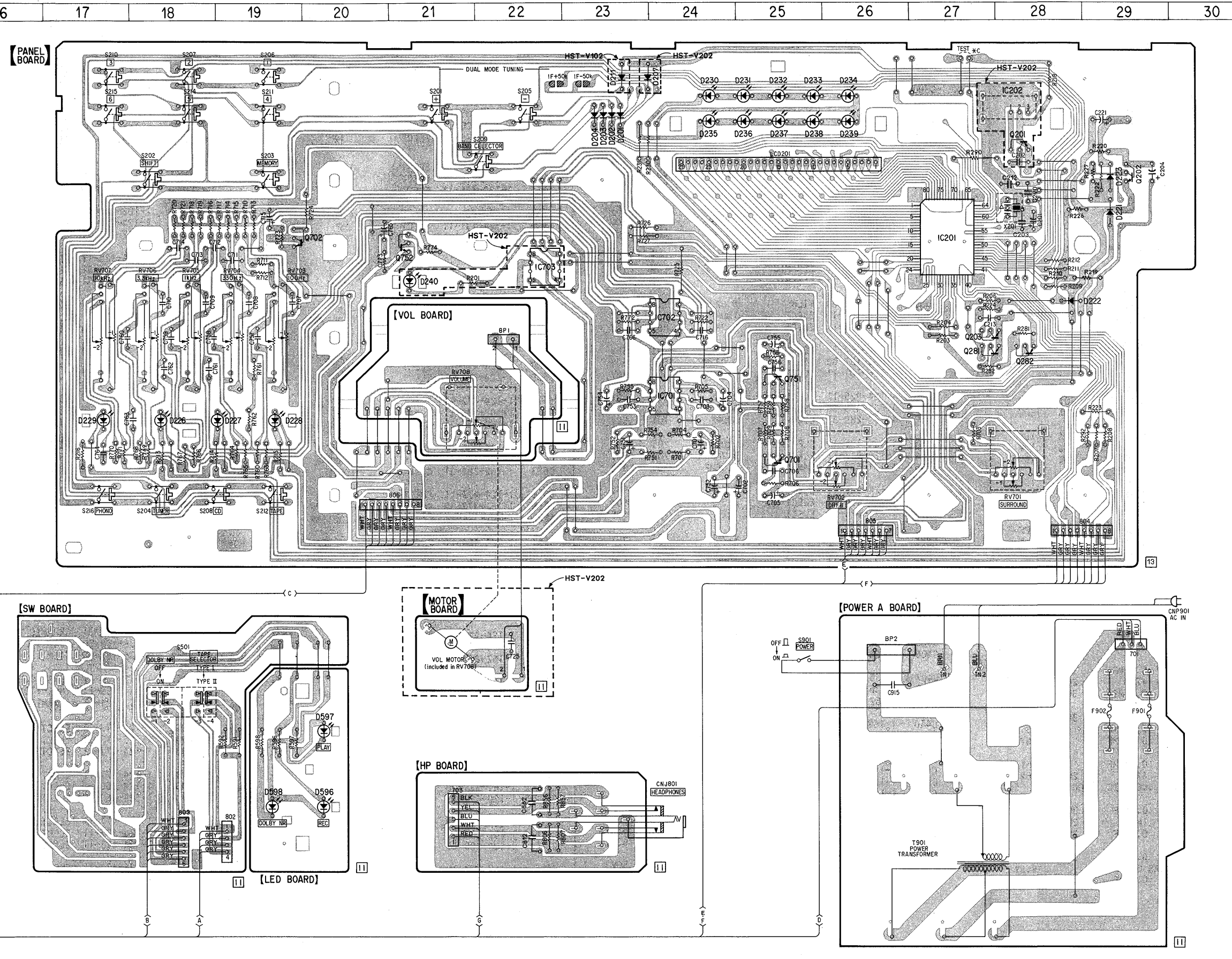
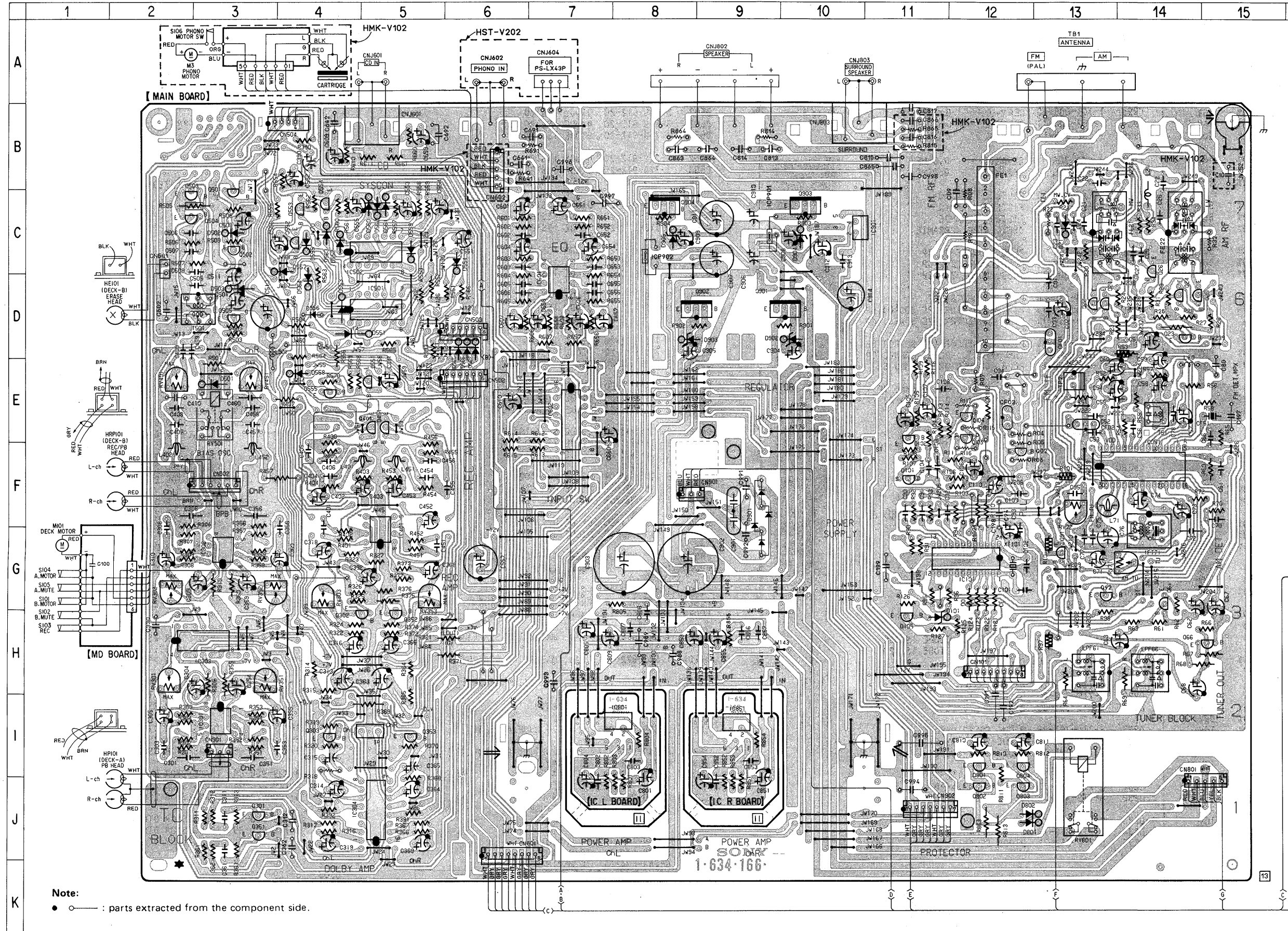


SCHEMATIC DIAGRAM —MAIN SECTION—



Motor switch S101/S104 is not used for TCM-180VM-N1 deck mechanism. The circuit directly connected to deck mechanism TCM-180VM-N1 by pattern.

PRINTED WIRING BOARDS



• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D21	C-13	IC304	J-5
D101	H-11	IC401	G-5
D201	B-23	IC501	D-5
D202	B-23	IC502	C-4
D203	B-23	IC601	D-7
D204	B-23	IC602	E-7
D207	A-24	IC701	E-24
D211	A-23	IC702	D-24
D221	C-29	IC703	C-22
D222	D-28	IC801	I-8
D223	D-29	IC851	I-9
D226	E-18	IC901	C-10
D227	E-19		
D228	E-19	Q02	F-12
D229	E-17	Q21	D-13
D230	A-24	Q22	D-13
D231	A-25	Q23	D-14
D232	A-25	Q24	D-14
D233	A-25	Q25	D-14
D234	A-26	Q26	C-14
D235	A-24	Q61	G-14
D236	B-25	Q66	H-14
D237	B-25	Q91	G-13
D238	B-25	Q92	G-13
D239	B-26	Q101	F-11
D240	C-21	Q102	E-11
D501	E-3	Q103	E-12
D502	C-3	Q104	E-12
D503	D-3	Q105	H-11
D551	D-4	Q201	B-28
D552	C-4	Q202	B-29
D553	D-4	Q203	D-27
D554	C-6	Q281	D-27
D555	C-4	Q282	D-28
D556	D-4	Q301	J-3
D557	C-4	Q302	H-4
D558	E-4	Q303	I-4
D559	C-5	Q351	J-3
D560	C-5	Q352	H-5
D561	C-5	Q353	I-5
D562	C-5	Q401	E-5
D563	C-4	Q451	E-5
D564	D-4	Q501	C-3
D565	D-6	Q502	C-3
D566	D-6	Q503	B-2
D567	D-6	Q504	C-2
D596	I-20	Q505	D-3
D597	I-20	Q551	E-5
D598	I-19	Q552	C-4
D801	J-12	Q553	C-4
D802	J-12	Q554	C-4
D901	F-9	Q555	E-4
D902	D-10	Q701	E-25
D903	D-8	Q702	C-19
D904	C-10	Q751	E-25
D905	C-8	Q752	C-21
		Q801	I-12
IC051	F-14	Q802	J-12
IC101	G-12	Q803	J-12
IC201	C-27	Q804	I-12
IC202	A-28	Q901	D-8
IC301	I-3	Q902	D-8
IC302	G-3	Q903	C-10
IC303	H-3	Q904	C-8

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF: μ F, PF: μ μF.

RESISTORS

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORS

In each case, U: μ , for example:

UA...: μ A..., UPA...: μ PA...,

UPC...: μ PC, UPD...: μ PD...

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
901	*1-634-167-11	PC BOARD, IC-L	C061	1-136-154-00	FILM 0.012MF 5% 50V
902	*1-634-168-11	PC BOARD, IC-R	C062	1-123-382-00	ELECT 3.3MF 20% 50V
903	*A-4341-021-A	(HMK-V102)...MOUNTED PCB, MAIN	C063	1-123-382-00	ELECT 3.3MF 20% 50V
	*A-4341-027-A	(HST-V202)...MOUNTED PCB, MAIN	C066	1-136-154-00	FILM 0.012MF 5% 50V
904	*1-634-170-11	PC BOARD, POWER (A)	C067	1-123-382-00	ELECT 3.3MF 20% 50V
905	*1-634-174-11	PC BOARD, SW	C068	1-123-382-00	ELECT 3.3MF 20% 50V
906	*1-634-173-11	PC BOARD, LED	C070	1-161-379-00	CERAMIC 0.01MF 30% 16V
907	*1-634-175-11	PC BOARD, H.P	C071	1-123-875-11	ELECT 10MF 20% 50V
908	*A-4331-019-A	(HMK-V102:IT)...MOUNTED PCB, PANEL	C072	1-161-379-00	CERAMIC 0.01MF 30% 16V
	*A-4334-188-A	(HMK-V102:WG)...MOUNTED PCB, PANEL	C073	1-124-463-00	ELECT 0.1MF 20% 50V
	*A-4341-025-A	(HST-V202).....MOUNTED PCB, PANEL	C074	1-124-927-11	ELECT 4.7MF 20% 50V
909	*1-634-176-11	PC BOARD, VOL	C075	1-161-379-00	CERAMIC 0.01MF 30% 16V
910	*1-164-172-11	(HST-V202)...PC BOARD, MOTOR	C076	1-126-176-11	ELECT 220MF 20% 10V
911	*1-533-189-11	HOLDER, FUSE	C077	1-161-379-00	CERAMIC 0.01MF 30% 16V
921	1-634-251-11	(TCM-YMW47C)...PC BOARD, TRANSLATION	C080	1-162-282-31	CERAMIC 100PF 10% 50V
922	*1-564-499-11	(TCM-YMW47C)...PIN, CONNECTOR 6P	C090	1-161-379-00	CERAMIC 0.01MF 30% 16V
923	*1-635-159-11	(TCM-180VW-N1)...PC BOARD, SWITCH	C091	1-161-379-00	CERAMIC 0.01MF 30% 16V
924	*1-564-499-11	PIN, CONNECTOR 6P	C092	1-161-379-00	CERAMIC 0.01MF 30% 16V
BP1	*1-508-829-12	(HST-V202)...H TYPE BASE POST	C093	1-161-379-00	CERAMIC 0.01MF 30% 16V
BP2	1-535-139-00	BASE POST 22MM (10MM PITCH) 2P	C094	1-124-477-11	ELECT 47MF 20% 16V
C09	1-161-379-00	CERAMIC 0.01MF 30% 16V	C095	1-162-211-31	CERAMIC 33PF 5% 50V
C10	1-161-494-00	(HMK-V102)...CERAMIC 0.022MF 25V	C100	1-101-005-00	(TCM-YMW47C)...CAP, CERAMIC 0.022MF F
C78	1-162-291-31	CERAMIC 560PF 10% 50V	C101	1-102-961-00	CERAMIC 27PF 5% 50V
C001	1-162-294-31	CERAMIC 0.001MF 10% 50V	C102	1-102-961-00	CERAMIC 27PF 5% 50V
C002	1-124-477-11	ELECT 47MF 20% 16V	C103	1-161-494-00	CERAMIC 0.022MF 25V
C003	1-161-379-00	CERAMIC 0.01MF 30% 16V	C104	1-136-173-00	FILM 0.47MF 5% 50V
C021	1-101-005-00	CERAMIC 0.022MF 50V	C105	1-124-463-00	ELECT 0.1MF 20% 50V
C022	1-101-006-00	CERAMIC 0.047MF 50V	C106	1-124-925-11	ELECT 2.2MF 20% 50V
C023	1-161-494-00	CERAMIC 0.022MF 25V	C107	1-124-463-00	ELECT 0.1MF 20% 50V
C024	1-101-006-00	CERAMIC 0.047MF 50V	C108	1-161-379-00	CERAMIC 0.01MF 30% 16V
C025	1-101-006-00	CERAMIC 0.047MF 50V	C109	1-161-379-00	CERAMIC 0.01MF 30% 16V
C026	1-101-006-00	CERAMIC 0.047MF 50V	C110	1-124-477-11	ELECT 47MF 20% 16V
C027	1-161-374-11	CERAMIC 0.0015MF 30% 16V	C191	1-161-379-00	CERAMIC 0.01MF 30% 16V
C028	1-102-120-00	CERAMIC 0.0018MF 10% 50V	C192	1-161-379-00	CERAMIC 0.01MF 30% 16V
C051	1-124-477-11	ELECT 47MF 20% 16V	C197	1-161-494-00	CERAMIC 0.022MF 25V
C052	1-161-379-00	CERAMIC 0.01MF 30% 16V	C198	1-161-494-00	CERAMIC 0.022MF 25V
C053	1-101-006-00	CERAMIC 0.047MF 50V	C199	1-161-494-00	CERAMIC 0.022MF 25V
C054	1-123-382-00	ELECT 3.3MF 20% 50V	C201	1-124-477-11	ELECT 47MF 20% 16V
C055	1-161-494-00	CERAMIC 0.022MF 25V	C202	1-162-294-31	(HST-V202)...CERAMIC 0.001MF 10% 50V
C056	1-161-329-00	CERAMIC 0.0068MF 30% 16V	C203	1-161-379-00	CERAMIC 0.01MF 30% 16V
C057	1-124-791-11	ELECT 1MF 20% 50V	C204	1-124-791-11	ELECT 1MF 20% 50V
C058	1-124-791-11	ELECT 1MF 20% 50V	C212	1-161-379-00	CERAMIC 0.01MF 30% 16V
C059	1-124-902-00	ELECT 0.47MF 20% 50V	C213	1-161-379-00	CERAMIC 0.01MF 30% 16V
C060	1-124-463-00	ELECT 0.1MF 20% 50V	C221	1-125-486-11	DOUBLE LAYERS 0.22F 5.5V
			C290	1-161-379-00	CERAMIC 0.01MF 30% 16V

Ref.No.	Part No.	Description			
C301	1-162-292-31	CERAMIC	680PF	10%	50V
C303	1-136-157-00	FILM	0.022MF	5%	50V
C304	1-126-101-11	ELECT	100MF	20%	16V
C305	1-124-925-11	ELECT	2.2MF	20%	50V
C306	1-162-292-31	CERAMIC	680PF	10%	50V
C308	1-136-157-00	FILM	0.022MF	5%	50V
C309	1-126-101-11	ELECT	100MF	20%	16V
C310	1-124-925-11	ELECT	2.2MF	20%	50V
C311	1-130-479-00	MYLAR	0.0047MF	5%	50V
C312	1-162-289-31	CERAMIC	390PF	10%	50V
C313	1-126-176-11	ELECT	220MF	20%	10V
C314	1-124-927-11	ELECT	4.7MF	20%	50V
C315	1-131-587-11	TANTALUM	0.68MF	10%	35V
C316	1-124-925-11	ELECT	2.2MF	20%	50V
C318	1-124-925-11	ELECT	2.2MF	20%	50V
C319	1-124-925-11	ELECT	2.2MF	20%	50V
C330	1-162-306-11	CERAMIC	0.01MF	20%	16V
C351	1-162-292-31	CERAMIC	680PF	10%	50V
C353	1-136-157-00	FILM	0.022MF	5%	50V
C354	1-126-101-11	ELECT	100MF	20%	16V
C355	1-124-925-11	ELECT	2.2MF	20%	50V
C356	1-162-292-31	CERAMIC	680PF	10%	50V
C358	1-136-157-00	FILM	0.022MF	5%	50V
C359	1-126-101-11	ELECT	100MF	20%	16V
C360	1-124-925-11	ELECT	2.2MF	20%	50V
C361	1-130-479-00	MYLAR	0.0047MF	5%	50V
C362	1-162-289-31	CERAMIC	390PF	10%	50V
C363	1-126-176-11	ELECT	220MF	20%	10V
C364	1-124-927-11	ELECT	4.7MF	20%	50V
C365	1-131-587-11	TANTALUM	0.68MF	10%	35V
C366	1-124-925-11	ELECT	2.2MF	20%	50V
C368	1-124-925-11	ELECT	2.2MF	20%	50V
C369	1-124-925-11	ELECT	2.2MF	20%	50V
C390	1-124-927-11	ELECT	4.7MF	20%	50V
C391	1-124-927-11	ELECT	4.7MF	20%	50V
C392	1-123-875-11	ELECT	10MF	20%	50V
C401	1-136-159-00	FILM	0.033MF	5%	50V
C402	1-124-925-11	ELECT	2.2MF	20%	50V
C403	1-124-925-11	ELECT	2.2MF	20%	50V
C404	1-136-153-00	FILM	0.01MF	5%	50V
C405	1-130-472-00	MYLAR	0.0012MF	5%	50V
C406	1-136-153-00	FILM	0.01MF	5%	50V
C407	1-136-273-91	FILM	75PF	5%	630V
C408	1-136-271-00	FILM	56PF	5%	630V
C409	1-162-280-31	CERAMIC	82PF	10%	50V
C410	1-162-284-31	CERAMIC	150PF	10%	50V
C451	1-136-159-00	FILM	0.033MF	5%	50V
C452	1-124-925-11	ELECT	2.2MF	20%	50V
C453	1-124-925-11	ELECT	2.2MF	20%	50V
C454	1-136-153-00	FILM	0.01MF	5%	50V
C455	1-130-472-00	MYLAR	0.0012MF	5%	50V
C456	1-136-153-00	FILM	0.01MF	5%	50V
C457	1-136-273-91	FILM	75PF	5%	630V
C458	1-136-271-00	FILM	56PF	5%	630V
C459	1-162-280-31	CERAMIC	82PF	10%	50V
C460	1-162-284-31	CERAMIC	150PF	10%	50V
C501	1-124-925-11	ELECT	2.2MF	20%	50V

Ref.No.	Part No.	Description			
C502	1-136-562-11	FILM	0.0082MF	5%	630V
C505	1-130-482-00	MYLAR	0.0082MF	5%	50V
C506	1-130-482-00	MYLAR	0.0082MF	5%	50V
C507	1-130-478-00	MYLAR	0.0039MF	5%	50V
C508	1-130-478-00	MYLAR	0.0039MF	5%	50V
C509	1-124-465-00	ELECT	0.47MF	20%	50V
C510	1-126-103-11	ELECT	470MF	20%	16V
C511	1-124-925-11	ELECT	2.2MF	20%	50V
C551	1-123-875-11	ELECT	10MF	20%	50V
C552	1-123-875-11	ELECT	10MF	20%	50V
C553	1-123-875-11	ELECT	10MF	20%	50V
C554	1-123-875-11	ELECT	10MF	20%	50V
C555	1-124-927-11	ELECT	4.7MF	20%	50V
C556	1-124-791-11	ELECT	1MF	20%	50V
C557	1-124-360-00	ELECT	1000MF	20%	16V
C601	1-124-925-11	ELECT	2.2MF	20%	50V
C602	1-162-282-31	CERAMIC	100PF	10%	50V
C603	1-162-282-31	CERAMIC	100PF	10%	50V
C604	1-124-477-11	ELECT	47MF	20%	16V
C605	1-161-377-00	CERAMIC	0.0047MF	20%	16V
C606	1-161-374-11	CERAMIC	0.0015MF	20%	16V
C607	1-124-464-11	ELECT	0.22MF	20%	50V
C608	1-124-477-11	ELECT	47MF	20%	16V
C609	1-124-925-11	ELECT	2.2MF	20%	50V
C610	1-124-477-11	ELECT	47MF	20%	16V
C641	1-162-286-31	CERAMIC	220PF	10%	50V
C642	1-162-286-31	CERAMIC	220PF	10%	50V
C651	1-124-925-11	ELECT	2.2MF	20%	50V
C652	1-162-282-31	CERAMIC	100PF	10%	50V
C653	1-162-282-31	CERAMIC	100PF	10%	50V
C654	1-124-477-11	ELECT	47MF	20%	16V
C655	1-161-377-00	CERAMIC	0.0047MF	20%	16V
C656	1-161-374-11	CERAMIC	0.0015MF	20%	16V
C657	1-124-464-11	ELECT	0.22MF	20%	50V
C658	1-124-477-11	ELECT	47MF	20%	16V
C659	1-124-925-11	ELECT	2.2MF	20%	50V
C660	1-124-477-11	ELECT	47MF	20%	16V
C691	1-162-286-31	CERAMIC	220PF	10%	50V
C692	1-162-286-31	CERAMIC	220PF	10%	50V
C701	1-124-925-11	ELECT	2.2MF	20%	50V
C702	1-124-477-11	ELECT	47MF	20%	16V
C703	1-162-282-31	CERAMIC	100PF	10%	50V
C704	1-124-925-11	ELECT	2.2MF	20%	50V
C705	1-124-464-11	ELECT	0.22MF	20%	50V
C706	1-136-161-00	FILM	0.047MF	5%	50V
C707	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C708	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C709	1-161-375-00	CERAMIC	0.0022MF	20%	16V
C710	1-162-294-31	CERAMIC	0.001MF	10%	50V
C711	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C712	1-130-482-00	MYLAR	0.0082MF	5%	50V
C713	1-161-327-00	CERAMIC	0.0033MF	20%	16V
C714	1-102-120-00	CERAMIC	0.0018MF	10%	50V
C715	1-124-925-11	ELECT	2.2MF	20%	50V
C716	1-162-282-31	CERAMIC	100PF	10%	50V
C725	1-136-153-00	(HST-V202)...FILM	0.01MF	5%	50V
C751	1-124-925-11	ELECT	2.2MF	20%	50V

Note:
The components identified by mark **A** or dotted line with mark **A** are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque **A** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description			
C752	1-124-477-11	ELECT	47MF	20%	16V
C753	1-162-282-31	CERAMIC	100PF	10%	50V
C754	1-124-925-11	ELECT	2.2MF	20%	50V
C755	1-124-464-11	ELECT	0.22MF	20%	50V
C756	1-136-161-00	FILM	0.047MF	5%	50V
C757	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C758	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C759	1-161-375-00	CERAMIC	0.0022MF	20%	16V
C760	1-162-294-31	CERAMIC	0.001MF	10%	50V
C761	1-161-329-00	CERAMIC	0.0068MF	20%	16V
C762	1-130-482-00	MYLAR	0.0082MF	5%	50V
C763	1-161-327-00	CERAMIC	0.0033MF	20%	16V
C764	1-102-120-00	CERAMIC	0.0018MF	10%	50V
C765	1-124-925-11	ELECT	2.2MF	20%	50V
C766	1-162-282-31	CERAMIC	100PF	10%	50V
C801	1-124-925-11	ELECT	2.2MF	20%	50V
C802	1-162-282-31	CERAMIC	100PF	10%	50V
C803	1-162-282-31	CERAMIC	100PF	10%	50V
C804	1-124-477-11	ELECT	47MF	20%	16V
C805	1-123-875-11	ELECT	10MF	20%	50V
C806	1-136-163-00	FILM	0.068MF	5%	50V
C807	1-136-163-00	FILM	0.068MF	5%	50V
C809	1-123-875-11	ELECT	10MF	20%	50V
C810	1-126-101-11	ELECT	100MF	20%	16V
C811	1-126-101-11	ELECT	100MF	20%	16V
C812	1-162-286-31	CERAMIC	220PF	10%	50V
C813	1-136-163-00	FILM	0.068MF	5%	50V
C814	1-136-163-00	FILM	0.068MF	5%	50V
C815	1-162-306-11	CERAMIC	0.01MF	20%	16V
C816	1-164-159-11	(HMK-V102)...CERAMIC	0.1MF	50V	
C817	1-162-290-31	CERAMIC	470PF	10%	50V
C851	1-124-925-11	ELECT	2.2MF	20%	50V
C852	1-162-282-31	CERAMIC	100PF	10%	50V
C853	1-162-282-31	CERAMIC	100PF	10%	50V
C854	1-124-477-11	ELECT	47MF	20%	16V
C855	1-123-875-11	ELECT	10MF	20%	50V
C856	1-136-163-00	FILM	0.068MF	5%	50V
C857	1-136-163-00	FILM	0.068MF	5%	50V
C859	1-123-875-11	ELECT	10MF	20%	50V
C862	1-162-286-31	CERAMIC	220PF	10%	50V
C863	1-136-163-00	FILM	0.068MF	5%	50V
C864	1-136-163-00	FILM	0.068MF	5%	50V
C865	1-162-306-11	CERAMIC	0.01MF	20%	16V
C866	1-164-159-11	(HMK-V102)...CERAMIC	0.1MF	50V	
C901	1-102-394-11	CERAMIC	0.01MF	250V	
C902	1-126-413-11	ELECT	330MF	20%	35V
C903	1-126-413-11	ELECT	330MF	20%	35V
C904	1-124-477-11	ELECT	47MF	20%	16V
C905	1-124-477-11	ELECT	47MF	20%	16V
C906	1-124-360-00	ELECT	1000MF	20%	16V
C907	1-124-360-00	ELECT	1000MF	20%	16V
C908	1-124-477-11	ELECT	47MF	20%	16V
C909	1-124-477-11	ELECT	47MF	20%	16V
C910	1-124-473-11	ELECT	1000MF	20%	10V
C911	1-124-473-11	ELECT	1000MF	20%	10V
C912	1-124-925-11	ELECT	2.2MF	20%	50V
C913	1-124-463-00	ELECT	0.1MF	20%	50V

Ref.No.	Part No.	Description			
C914	1-126-103-11	ELECT	470MF	20%	16V
C915	1-161-744-00	CERAMIC	0.01MF	400V	
C988	1-164-159-11	CERAMIC	0.1MF	50V	
C989	1-164-159-11	CERAMIC	0.1MF	50V	
C991	1-136-169-00	FILM	0.22MF	5%	50V
C992	1-136-169-00	FILM	0.22MF	5%	50V
C993	1-101-005-00	CERAMIC	0.022MF	50V	
C994	1-162-306-11	CERAMIC	0.01MF	20%	16V
C995	1-162-306-11	CERAMIC	0.01MF	20%	16V
C996	1-162-306-11	CERAMIC	0.01MF	20%	16V
C997	1-162-306-11	CERAMIC	0.01MF	20%	16V
CF001	1-567-389-11	FILTER, CERAMIC			
CF002	1-567-389-11	FILTER, CERAMIC			
CF003	1-557-389-11	FILTER, CERAMIC			
CF051	1-577-075-11	OSCILLATOR, CERAMIC			
CN301	*1-564-506-11	PLUG, CONNECTOR 3P			
CN302	*1-564-509-11	PLUG, CONNECTOR 6P			
CN501	*1-564-505-11	PLUG, CONNECTOR 2P			
CN502	*1-564-340-00	PIN, CONNECTOR 6P			
CN503	*1-506-988-11	PIN, CONNECTOR (PC BOARD) 6P			
CN504	*1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
CN601	*1-506-990-11	PIN, CONNECTOR (PC BOARD) 8P			
CN602	*1-564-508-11	(HMK-V102)...PLUG, CONNECTOR 5P			
CN801	*1-506-708-11	PLUG, CONNECTOR (2.5MM) 5P			
CN901	*1-506-707-11	PLUG, CONNECTOR (2.5MM) 3P			
CN902	*1-506-989-11	PIN, CONNECTOR (PC BOARD) 7P			
CNJ601	*1-569-130-11	JACK, PIN 2P			
CNJ602	*1-569-130-11	(HST-V202)...JACK, PIN 2P			
CNJ604	*1-564-358-00	(HST-V202)...PIN, CONNECTOR 3P			
CNJ801	1-569-113-11	JACK, LARGE TYPE			
CNJ802	*1-537-265-11	TERMINAL BOARD			
CNJ803	*1-569-130-11	JACK, PIN 2P			
CNP101	*1-506-990-11	PIN, CONNECTOR (PC BOARD) 8P			
CNP901	1-555-750-00	CORD, POWER			
D021	8-719-912-20	DIODE 1SS120			
D101	8-719-933-54	DIODE HZS9A2L			
D201	8-719-912-20	DIODE 1SS120			
D202	8-719-912-20	DIODE 1SS120			
D203	8-719-912-20	DIODE 1SS120			
D204	8-719-912-20	DIODE 1SS120			
D207	8-719-912-20	(HST-V202)...DIODE 1SS120			
D211	8-719-912-20	(HMK-V102)...DIODE 1SS120			
D221	8-719-912-20	DIODE 1SS120			
D222	8-719-912-20	DIODE 1SS120			
D223	8-719-912-20	DIODE 1SS120			
D226	8-719-301-38	DIODE SEL2210S-C			
D227	8-719-301-38	DIODE SEL2210S-C			
D228	8-719-301-38	DIODE SEL2210S-C			
D229	8-719-301-38	DIODE SEL2210S-C			
D230	8-719-312-73	DIODE SEL4B14A-D			
D231	8-719-312-73	DIODE SEL4B14A-D			
D232	8-719-312-73	DIODE SEL4B14A-D			
D233	8-719-312-73	DIODE SEL4B14A-D			
D234	8-719-312-73	DIODE SEL4B14A-D			
D235	8-719-312-73	DIODE SEL4B14A-D			

Note:

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Note:

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description
D236	8-719-312-73	DIODE SEL4B14A-D
D237	8-719-312-73	DIODE SEL4B14A-D
D238	8-719-312-73	DIODE SEL4B14A-D
D239	8-719-312-73	DIODE SEL4B14A-D
D240	8-719-301-38	(HST-V202)...DIODE SEL2210S-C
D501	8-719-912-20	DIODE 1SS120
D502	8-719-912-20	DIODE 1SS120
D503	8-719-912-20	DIODE 1SS120
D551	8-719-912-20	DIODE 1SS120
D552	8-719-912-20	DIODE 1SS120
D553	8-719-912-20	DIODE 1SS120
D554	8-719-912-20	DIODE 1SS120
D555	8-719-912-20	DIODE 1SS120
D556	8-719-912-20	DIODE 1SS120
D557	8-719-912-20	DIODE 1SS120
D558	8-719-912-20	DIODE 1SS120
D559	8-719-912-20	DIODE 1SS120
D560	8-719-912-20	DIODE 1SS120
D561	8-719-912-20	DIODE 1SS120
D562	8-719-912-20	DIODE 1SS120
D563	8-719-912-20	DIODE 1SS120
D564	8-719-912-20	DIODE 1SS120
D565	8-719-912-20	DIODE 1SS120
D566	8-719-912-20	DIODE 1SS120
D567	8-719-912-20	DIODE 1SS120
D596	8-719-301-38	DIODE SEL2210S-C
D597	8-719-301-44	DIODE SEL2410E-C
D598	8-719-301-52	DIODE SEL2810A-C
D801	8-719-912-20	DIODE 1SS120
D802	8-719-912-20	DIODE 1SS120
D901	8-719-312-09	DIODE RBA-402
D902	8-719-001-67	DIODE UZL-12L3
D903	8-719-001-67	DIODE UZL-12L3
D904	8-719-933-50	DIODE UZS7C2L
D905	8-719-933-50	DIODE UZS7C2L
F901	1-532-237-00	FUSE, TIME LAG (3.15A)
F902	1-532-237-00	FUSE, TIME LAG (3.15A)
FE001	1-463-857-21	FRONT END (FM)
FE021	1-236-462-11	ENCAPSULATED COMPONENT
FE022	1-236-463-11	ENCAPSULATED COMPONENT
HE101	1-543-673-11	HEAD, MAGNETIC (ERASE)
HP101	1-543-672-11	HEAD, MAGNETIC (REC/PB)
HRP101	1-543-672-11	HEAD, MAGNETIC (REC/PB)
IC051	8-759-821-45	IC LA1851N
IC101	8-759-820-91	IC LC7218
IC201	8-759-148-93	IC UPD75308GF-491-3B9
IC202	8-749-920-83	(HST-V202)...IC GPlU52XB
IC301	8-759-111-44	IC UPC4570C-1
IC302	8-759-111-44	IC UPC4570C-1
IC303	8-759-000-49	IC MC14066BCP
IC304	8-752-031-67	IC CXA1100P
IC401	8-759-634-51	IC M5218AP
IC501	8-759-140-11	IC UPD4011BC
IC502	8-759-240-01	IC UPD4001BC
IC601	8-759-634-51	IC M5218AP

Note:

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Note:

Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description
IC602	8-759-208-08	IC TC4052BPHB
IC701	8-759-634-51	IC M5218AP
IC702	8-759-634-51	IC M5218AP
IC703	8-759-820-62	(HST-V202)...IC LB1639
IC801	8-749-920-78	IC SI-18751
IC851	8-749-920-78	IC SI-18751
IC901	8-759-820-13	IC L78MR06
ICP901	1-532-838-11	LINK, IC
ICP902	1-532-838-11	LINK, IC
IFT071	1-404-713-11	TRANSFORMER, IF
L80	1-235-046-00	ENCAPSULATED COMPONENT (B.E.F)
L021	1-410-524-41	INDUCTOR 220UH
L071	1-407-500-00	INDUCTOR 4.7MMH
L401	1-410-775-21	INDUCTOR 10MMH
L402	1-410-780-11	INDUCTOR 27MMH
L451	1-410-775-21	INDUCTOR 10MMH
L452	1-410-780-11	INDUCTOR 27MMH
L501	1-410-524-41	INDUCTOR 220UH
LCD201	1-808-810-11	DISPLAY PANEL, LIQUID CRYSTAL
LPF061	1-235-164-00	FILTER, LOW PASS
LPF066	1-235-164-00	FILTER, LOW PASS
M3	4-895-034-01	(HMK-V102)...MOTOR ASSY
M101	X-3358-201-1	(TCM-180VW-N1)...MOTOR (W) ASSY
M101	X-3390-803-1	(TCM-YMW47C)...MOTOR ASSY
Q02	8-729-620-19	TRANSISTOR 2SC2724TP-CD
Q021	8-729-900-80	TRANSISTOR DTC114ES
Q022	8-729-900-80	TRANSISTOR DTC114ES
Q023	8-729-900-80	TRANSISTOR DTC114ES
Q024	8-729-821-04	TRANSISTOR 2SA1317-STU
Q025	8-729-620-05	TRANSISTOR 2SC2603-EF
Q026	8-729-900-80	TRANSISTOR DTC114ES
Q061	8-729-620-05	TRANSISTOR 2SC2603-EF
Q066	8-729-620-05	TRANSISTOR 2SC2603-EF
Q091	8-729-900-61	TRANSISTOR DTA114ES
Q092	8-729-900-80	TRANSISTOR DTC114ES
Q101	8-729-202-67	TRANSISTOR 2SK246GR3
Q102	8-729-201-84	TRANSISTOR 2SC3112B
Q103	8-729-202-67	TRANSISTOR 2SK246GR3
Q104	8-729-201-84	TRANSISTOR 2SC3112B
Q105	8-729-620-05	TRANSISTOR 2SC2603-EF
Q201	8-729-900-61	(HST-V202)...TRANSISTOR DTA114ES
Q202	8-729-620-05	TRANSISTOR 2SC2603-EF
Q203	8-729-900-36	TRANSISTOR DTC124ES
Q281	8-729-900-89	TRANSISTOR DTC144ES
Q282	8-729-821-04	TRANSISTOR 2SA1317-STU
Q301	8-729-900-89	TRANSISTOR DTC144ES
Q302	8-729-620-05	TRANSISTOR 2SC2603-EF
Q303	8-729-620-05	TRANSISTOR 2SC2603-EF
Q351	8-729-900-89	TRANSISTOR DTC144ES
Q352	8-729-620-05	TRANSISTOR 2SC2603-EF
Q353	8-729-620-05	TRANSISTOR 2SC2603-EF
Q401	8-729-900-89	TRANSISTOR DTC144ES
Q451	8-729-900-89	TRANSISTOR DTC144ES
Q501	8-729-900-61	TRANSISTOR DTA114ES
Q502	8-729-281-52	TRANSISTOR 2SC1815Y
Q503	8-729-194-57	TRANSISTOR 2SC945-P
Q504	8-729-194-57	TRANSISTOR 2SC945-P

Ref.No.	Part No.	Description				
Q505	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q551	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q552	8-729-900-89	TRANSISTOR	DTC144ES			
Q553	8-729-900-63	TRANSISTOR	STA124ES			
Q554	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q555	8-729-821-04	TRANSISTOR	2SA1317-STU			
Q701	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q702	8-729-141-26	TRANSISTOR	2SC3622A-LK			
Q751	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q752	8-729-141-26	TRANSISTOR	2SC3622A-LK			
Q801	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q802	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q803	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q804	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q901	8-729-920-98	TRANSISTOR	2SD1761-EF			
Q902	8-729-920-97	TRANSISTOR	2SB1187-EF			
Q903	8-729-920-98	TRANSISTOR	2SD1761-EF			
Q904	8-729-920-97	TRANSISTOR	2SB1187-EF			
R04	1-249-409-11	CARBON	220	5%	1/4W	
R05	1-247-891-00	CARBON	330K	5%	1/4W	
R06	1-249-411-11	CARBON	330	5%	1/4W	
R07	1-249-401-11	CARBON	47	5%	1/4W	
R08	1-249-435-11	CARBON	33K	5%	1/4W	
R19	1-249-437-11	CARBON	47K	5%	1/4W	
R010	△.1-249-401-11	CARBON	47	5%	1/4W	F
R021	1-249-441-11	CARBON	100K	5%	1/4W	
R022	1-249-425-11	CARBON	4.7K	5%	1/4W	
R023	1-249-429-11	CARBON	10K	5%	1/4W	
R024	1-249-429-11	CARBON	10K	5%	1/4W	
R025	1-249-434-11	CARBON	27K	5%	1/4W	
R026	1-249-433-11	CARBON	22K	5%	1/4W	
R027	1-249-413-11	CARBON	470	5%	1/4W	
R028	1-249-421-11	CARBON	2.2K	5%	1/4W	
R029	1-249-433-11	CARBON	22K	5%	1/4W	
R030	1-249-437-11	CARBON	47K	5%	1/4W	
R031	1-249-441-11	CARBON	100K	5%	1/4W	
R032	1-249-437-11	CARBON	47K	5%	1/4W	
R033	1-247-903-00	CARBON	1M	5%	1/4W	
R034	1-249-433-11	CARBON	22K	5%	1/4W	
R051	1-249-417-11	CARBON	1K	5%	1/4W	
R052	1-249-433-11	CARBON	22K	5%	1/4W	
R053	△.1-249-405-11	CARBON	100	5%	1/4W	F
R054	1-249-435-11	CARBON	33K	5%	1/4W	
R055	1-249-428-11	CARBON	8.2K	5%	1/4W	
R056	1-249-432-11	CARBON	18K	5%	1/4W	
R057	1-249-429-11	CARBON	10K	5%	1/4W	
R058	1-249-418-11	CARBON	1.2K	5%	1/4W	
R060	1-249-425-11	CARBON	4.7K	5%	1/4W	
R061	1-247-895-00	CARBON	470K	5%	1/4W	
R062	1-249-416-11	CARBON	820	5%	1/4W	
R063	1-249-421-11	CARBON	2.2K	5%	1/4W	
R064	1-249-423-11	CARBON	3.3K	5%	1/4W	
R065	1-249-425-11	CARBON	4.7K	5%	1/4W	
R066	1-247-895-00	CARBON	470K	5%	1/4W	
R067	1-249-416-11	CARBON	820	5%	1/4W	
R068	1-249-421-11	CARBON	2.2K	5%	1/4W	
R069	1-249-423-11	CARBON	3.3K	5%	1/4W	

Ref.No.	Part No.	Description				
R070	1-249-437-11	CARBON	47K	5%	1/4W	
R072	1-249-437-11	CARBON	47K	5%	1/4W	
R090	1-249-429-11	CARBON	10K	5%	1/4W	
R091	1-249-429-11	CARBON	10K	5%	1/4W	
R092	1-249-425-11	CARBON	4.7K	5%	1/4W	
R093	1-249-417-11	CARBON	1K	5%	1/4W	
R094	1-249-417-11	CARBON	1K	5%	1/4W	
R095	1-249-429-11	CARBON	10K	5%	1/4W	
R096	1-249-429-11	CARBON	10K	5%	1/4W	
R097	△.1-249-401-11	CARBON	47	5%	1/4W	F
R098	1-249-423-11	CARBON	3.3K	5%	1/4W	
R101	△.1-249-405-11	CARBON	100	5%	1/4W	F
R102	1-249-423-11	CARBON	3.3K	5%	1/4W	
R103	1-249-421-11	CARBON	2.2K	5%	1/4W	
R104	1-249-433-11	CARBON	22K	5%	1/4W	
R105	1-249-425-11	CARBON	4.7K	5%	1/4W	
R106	1-249-414-11	CARBON	560	5%	1/4W	
R107	1-249-417-11	CARBON	1K	5%	1/4W	
R108	1-249-410-11	CARBON	270	5%	1/4W	
R109	1-249-405-11	CARBON	100	5%	1/4W	
R110	1-249-423-11	CARBON	3.3K	5%	1/4W	
R111	1-249-425-11	CARBON	4.7K	5%	1/4W	
R112	1-249-421-11	CARBON	2.2K	5%	1/4W	
R113	1-249-425-11	CARBON	4.7K	5%	1/4W	
R114	1-249-425-11	CARBON	4.7K	5%	1/4W	
R115	1-249-414-11	CARBON	560	5%	1/4W	
R116	1-249-417-11	CARBON	1K	5%	1/4W	
R117	1-249-410-11	CARBON	270	5%	1/4W	
R118	1-249-405-11	CARBON	100	5%	1/4W	
R121	1-249-417-11	CARBON	1K	5%	1/4W	
R122	1-249-417-11	CARBON	1K	5%	1/4W	
R123	1-249-417-11	CARBON	1K	5%	1/4W	
R124	1-249-417-11	CARBON	1K	5%	1/4W	
R125	1-249-417-11	CARBON	1K	5%	1/4W	
R126	1-249-441-11	CARBON	100K	5%	1/4W	
R127	1-249-429-11	CARBON	10K	5%	1/4W	
R201	1-249-412-11	(HST-V202)...CARBON	390	5%	1/4W	
R203	1-249-417-11	CARBON	1K	5%	1/4W	
R204	1-249-417-11	CARBON	1K	5%	1/4W	
R206	1-249-433-11	CARBON	22K	5%	1/4W	
R207	1-249-417-11	CARBON	1K	5%	1/4W	
R208	1-249-417-11	CARBON	1K	5%	1/4W	
R209	1-249-437-11	CARBON	47K	5%	1/4W	
R210	1-249-437-11	CARBON	47K	5%	1/4W	
R211	1-249-437-11	CARBON	47K	5%	1/4W	
R212	1-249-437-11	CARBON	47K	5%	1/4W	
R213	1-249-412-11	CARBON	390	5%	1/4W	
R214	1-249-412-11	CARBON	390	5%	1/4W	
R215	1-249-412-11	CARBON	390	5%	1/4W	
R216	1-249-412-11	CARBON	390	5%	1/4W	
R218	1-249-437-11	CARBON	47K	5%	1/4W	
R219	1-249-437-11	CARBON	47K	5%	1/4W	
R220	1-249-431-11	CARBON	15K	5%	1/4W	
R222	1-249-417-11	CARBON	1K	5%	1/4W	
R223	1-249-417-11	CARBON	1K	5%	1/4W	
R224	1-249-437-11	CARBON	47K	5%	1/4W	
R226	1-249-417-11	CARBON	1K	5%	1/4W	

Note:
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Ref.No.	Part No.	Description			
R227	1-249-437-11	CARBON	47K	5%	1/4W
R230	1-249-408-11	CARBON	180	5%	1/4W
R231	1-249-408-11	CARBON	180	5%	1/4W
R281	1-249-433-11	CARBON	22K	5%	1/4W
R282	1-249-433-11	CARBON	22K	5%	1/4W
R290	1-249-417-11	CARBON	1K	5%	1/4W
R292	1-249-417-11	CARBON	1K	5%	1/4W
R301	1-247-889-00	CARBON	270K	5%	1/4W
R302	1-249-404-00	CARBON	82	5%	1/4W
R303	1-247-882-11	CARBON	130K	5%	1/4W
R304	1-249-426-11	CARBON	5.6K	5%	1/4W
R305	1-249-409-11	CARBON	220	5%	1/4W
R306	1-247-889-00	CARBON	270K	5%	1/4W
R307	1-249-404-00	CARBON	82	5%	1/4W
R308	1-247-882-11	CARBON	130K	5%	1/4W
R309	1-249-426-11	CARBON	5.6K	5%	1/4W
R310	1-249-409-11	CARBON	220	5%	1/4W
R311	1-249-430-11	CARBON	12K	5%	1/4W
R312	1-249-431-11	CARBON	15K	5%	1/4W
R313	1-247-889-00	CARBON	270K	5%	1/4W
R314	1-249-401-11	CARBON	47	5%	1/4W
R315	1-249-401-11	CARBON	47	5%	1/4W
R316	1-249-437-11	CARBON	47K	5%	1/4W
R317	1-247-838-00	CARBON	2K	5%	1/4W
R318	1-249-421-11	CARBON	2.2K	5%	1/4W
R319	1-249-425-11	CARBON	4.7K	5%	1/4W
R320	1-247-854-11	CARBON	9.1K	5%	1/4W
R321	1-249-417-11	CARBON	1K	5%	1/4W
R322	1-249-429-11	CARBON	10K	5%	1/4W
R323	1-249-429-11	CARBON	10K	5%	1/4W
R324	1-249-422-11	CARBON	2.7K	5%	1/4W
R325	1-249-425-11	CARBON	4.7K	5%	1/4W
R326	1-249-441-11	CARBON	100K	5%	1/4W
R327	1-249-441-11	CARBON	100K	5%	1/4W
R351	1-247-889-00	CARBON	270K	5%	1/4W
R352	1-249-404-00	CARBON	82	5%	1/4W
R353	1-247-882-11	CARBON	130K	5%	1/4W
R354	1-249-426-11	CARBON	5.6K	5%	1/4W
R355	1-249-409-11	CARBON	220	5%	1/4W
R356	1-247-889-00	CARBON	270K	5%	1/4W
R357	1-249-404-00	CARBON	82	5%	1/4W
R358	1-247-882-11	CARBON	130K	5%	1/4W
R359	1-249-426-11	CARBON	5.6K	5%	1/4W
R360	1-249-409-11	CARBON	220	5%	1/4W
R361	1-249-430-11	CARBON	12K	5%	1/4W
R362	1-249-431-11	CARBON	15K	5%	1/4W
R363	1-247-889-00	CARBON	270K	5%	1/4W
R364	1-249-401-11	CARBON	47	5%	1/4W
R365	1-249-401-11	CARBON	47	5%	1/4W
R366	1-249-437-11	CARBON	47K	5%	1/4W
R367	1-247-838-00	CARBON	2K	5%	1/4W
R368	1-249-421-11	CARBON	2.2K	5%	1/4W
R369	1-249-425-11	CARBON	4.7K	5%	1/4W
R370	1-247-854-11	CARBON	9.1K	5%	1/4W
R371	1-249-417-11	CARBON	1K	5%	1/4W
R372	1-249-429-11	CARBON	10K	5%	1/4W
R373	1-249-429-11	CARBON	10K	5%	1/4W

Ref.No.	Part No.	Description			
R374	1-249-422-11	CARBON	2.7K	5%	1/4W
R375	1-249-425-11	CARBON	4.7K	5%	1/4W
R376	1-249-441-11	CARBON	100K	5%	1/4W
R377	1-249-441-11	CARBON	100K	5%	1/4W
R390	1-249-417-11	CARBON	1K	5%	1/4W
R391	1-215-460-00	METAL	43K	1%	1/6W
R392	1-249-437-11	CARBON	47K	5%	1/4W
R393	1-249-417-11	CARBON	1K	5%	1/4W
R401	1-249-435-11	CARBON	33K	5%	1/4W
R402	1-247-876-11	CARBON	75K	5%	1/4W
R403	1-249-422-11	CARBON	2.7K	5%	1/4W
R404	1-249-410-11	CARBON	270	5%	1/4W
R405	1-249-423-11	CARBON	3.3K	5%	1/4W
R406	1-247-850-11	CARBON	6.2K	5%	1/4W
R407	1-249-430-11	CARBON	12K	5%	1/4W
R451	1-249-435-11	CARBON	33K	5%	1/4W
R452	1-247-876-11	CARBON	75K	5%	1/4W
R453	1-249-422-11	CARBON	2.7K	5%	1/4W
R454	1-249-410-11	CARBON	270	5%	1/4W
R455	1-249-423-11	CARBON	3.3K	5%	1/4W
R456	1-247-850-11	CARBON	6.2K	5%	1/4W
R457	1-249-430-11	CARBON	12K	5%	1/4W
R501	1-249-401-11	CARBON	47	5%	1/4W
R502	1-249-429-11	CARBON	10K	5%	1/4W
R503	1-249-429-11	CARBON	10K	5%	1/4W
R504	1-249-425-11	CARBON	4.7K	5%	1/4W
R505	1-212-857-00	FUSIBLE	10	5%	1/4W F
R506	1-249-434-11	CARBON	27K	5%	1/4W
R507	1-249-434-11	CARBON	27K	5%	1/4W
R508	1-249-429-11	CARBON	10K	5%	1/4W
R509	1-249-417-11	CARBON	1K	5%	1/4W
R551	1-247-850-11	CARBON	6.2K	5%	1/4W
R552	1-249-440-11	CARBON	82K	5%	1/4W
R553	1-249-433-11	CARBON	22K	5%	1/4W
R554	1-249-429-11	CARBON	10K	5%	1/4W
R555	1-249-437-11	CARBON	47K	5%	1/4W
R556	1-249-409-11	CARBON	220	5%	1/4W
R557	1-249-437-11	CARBON	47K	5%	1/4W
R558	1-249-429-11	CARBON	10K	5%	1/4W
R559	1-249-437-11	CARBON	47K	5%	1/4W
R560	1-249-423-11	CARBON	3.3K	5%	1/4W
R561	1-249-441-11	CARBON	100K	5%	1/4W
R562	1-249-433-11	CARBON	22K	5%	1/4W
R563	1-249-429-11	CARBON	10K	5%	1/4W
R564	1-249-437-11	CARBON	47K	5%	1/4W
R565	1-249-433-11	CARBON	22K	5%	1/4W
R566	1-249-433-11	CARBON	22K	5%	1/4W
R568	1-249-429-11	CARBON	10K	5%	1/4W
R569	1-249-425-11	CARBON	4.7K	5%	1/4W
R570	1-249-429-11	CARBON	10K	5%	1/4W
R591	1-247-850-11	CARBON	6.2K	5%	1/4W
R592	1-249-416-11	CARBON	820	5%	1/4W
R596	1-249-413-11	CARBON	470	5%	1/4W
R597	1-249-413-11	CARBON	470	5%	1/4W
R598	1-249-413-11	CARBON	470	5%	1/4W
R601	1-249-417-11	CARBON	1K	5%	1/4W
R602	1-249-441-11	CARBON	100K	5%	1/4W

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Ref.No.	Part No.	Description			
R603	1-249-416-11	CARBON	820	5%	1/4W
R604	1-247-897-11	CARBON	560K	5%	1/4W
R605	1-249-437-11	CARBON	47K	5%	1/4W
R606	1-249-409-11	CARBON	220	5%	1/4W
R607	1-249-441-11	CARBON	100K	5%	1/4W
R608	1-249-409-11	CARBON	220	5%	1/4W
R610	1-249-429-11	CARBON	10K	5%	1/4W
R611	1-249-441-11	CARBON	100K	5%	1/4W
R612	1-249-417-11	CARBON	1K	5%	1/4W
R613	1-249-417-11	CARBON	1K	5%	1/4W
R614	1-249-433-11	CARBON	22K	5%	1/4W
R615	1-249-433-11	CARBON	22K	5%	1/4W
R641	1-249-417-11	CARBON	1K	5%	1/4W
R651	1-249-417-11	CARBON	1K	5%	1/4W
R652	1-249-441-11	CARBON	100K	5%	1/4W
R653	1-249-416-11	CARBON	820	5%	1/4W
R654	1-247-897-11	CARBON	560K	5%	1/4W
R655	1-249-437-11	CARBON	47K	5%	1/4W
R656	1-249-409-11	CARBON	220	5%	1/4W
R657	1-249-441-11	CARBON	100K	5%	1/4W
R658	1-249-409-11	CARBON	220	5%	1/4W
R660	1-249-429-11	CARBON	10K	5%	1/4W
R661	1-249-441-11	CARBON	100K	5%	1/4W
R691	1-249-417-11	CARBON	1K	5%	1/4W
R701	1-249-441-11	CARBON	100K	5%	1/4W
R702	1-249-417-11	CARBON	1K	5%	1/4W
R703	1-249-431-11	CARBON	15K	5%	1/4W
R704	1-249-441-11	CARBON	100K	5%	1/4W
R705	1-249-433-11	CARBON	22K	5%	1/4W
R706	1-249-424-11	CARBON	3.9K	5%	1/4W
R707	1-249-441-11	CARBON	100K	5%	1/4W
R708	1-249-427-11	CARBON	6.8K	5%	1/4W
R709	1-249-412-11	CARBON	390	5%	1/4W
R710	1-249-436-11	CARBON	39K	5%	1/4W
R711	1-247-897-11	CARBON	560K	5%	1/4W
R712	1-249-438-11	CARBON	56K	5%	1/4W
R713	1-249-436-11	CARBON	39K	5%	1/4W
R714	1-249-434-11	CARBON	27K	5%	1/4W
R715	1-249-434-11	CARBON	27K	5%	1/4W
R716	1-249-432-11	CARBON	18K	5%	1/4W
R717	1-249-432-11	CARBON	18K	5%	1/4W
R718	1-249-430-11	CARBON	12K	5%	1/4W
R719	1-249-430-11	CARBON	12K	5%	1/4W
R720	1-249-428-11	CARBON	8.2K	5%	1/4W
R721	1-249-428-11	CARBON	8.2K	5%	1/4W
R722	1-247-897-11	CARBON	560K	5%	1/4W
R723	1-249-421-11	CARBON	2.2K	5%	1/4W
R724	1-249-425-11	CARBON	4.7K	5%	1/4W
R725	1-249-433-11	CARBON	22K	5%	1/4W
R726	1-249-433-11	CARBON	22K	5%	1/4W
R727	1-249-433-11	CARBON	22K	5%	1/4W
R751	1-249-441-11	CARBON	100K	5%	1/4W
R752	1-249-417-11	CARBON	1K	5%	1/4W
R754	1-249-441-11	CARBON	100K	5%	1/4W
R755	1-249-433-11	CARBON	22K	5%	1/4W
R756	1-249-424-11	CARBON	3.9K	5%	1/4W
R757	1-249-441-11	CARBON	100K	5%	1/4W

Ref.No.	Part No.	Description			
R758	1-249-427-11	CARBON	6.8K	5%	1/4W
R759	1-249-412-11	CARBON	390	5%	1/4W
R760	1-249-436-11	CARBON	39K	5%	1/4W
R761	1-247-897-11	CARBON	560K	5%	1/4W
R762	1-249-438-11	CARBON	56K	5%	1/4W
R763	1-249-436-11	CARBON	39K	5%	1/4W
R764	1-249-434-11	CARBON	27K	5%	1/4W
R765	1-249-434-11	CARBON	27K	5%	1/4W
R766	1-249-432-11	CARBON	18K	5%	1/4W
R767	1-249-432-11	CARBON	18K	5%	1/4W
R768	1-249-430-11	CARBON	12K	5%	1/4W
R769	1-249-430-11	CARBON	12K	5%	1/4W
R770	1-249-428-11	CARBON	8.2K	5%	1/4W
R771	1-249-428-11	CARBON	8.2K	5%	1/4W
R772	1-247-897-11	CARBON	560K	5%	1/4W
R773	1-249-421-11	CARBON	2.2K	5%	1/4W
R774	1-249-425-11	CARBON	4.7K	5%	1/4W
R801	1-249-417-11	CARBON	1K	5%	1/4W
R802	1-249-434-11	CARBON	27K	5%	1/4W
R803	1-249-414-11	CARBON	560	5%	1/4W
R804	1-249-434-11	CARBON	27K	5%	1/4W
R805	1-249-389-11	CARBON	4.7	5%	1/4W
R806	1-249-415-11	CARBON	680	5%	1/4W
R807	1-249-415-11	CARBON	680	5%	1/4W
R810	1-249-441-11	CARBON	100K	5%	1/4W
R811	1-249-389-11	CARBON	4.7	5%	1/4W
R812	1-249-438-11	CARBON	56K	5%	1/4W
R813	1-249-438-11	CARBON	56K	5%	1/4W
R814	1-249-393-11	CARBON	10	5%	1/4W
R815	1-249-393-11	(HMK-V102)...CARBON	10	5%	1/4W
R851	1-249-417-11	CARBON	1K	5%	1/4W
R852	1-249-434-11	CARBON	27K	5%	1/4W
R853	1-249-414-11	CARBON	560	5%	1/4W
R854	1-249-434-11	CARBON	27K	5%	1/4W
R855	1-249-389-11	CARBON	4.7	5%	1/4W
R856	1-249-415-11	CARBON	680	5%	1/4W
R857	1-249-415-11	CARBON	680	5%	1/4W
R863	1-249-437-11	CARBON	47K	5%	1/4W
R864	1-249-393-11	CARBON	10	5%	1/4W
R865	1-249-393-11	(HMK-V102)...CARBON	10	5%	1/4W
R901	1-249-422-11	CARBON	2.7K	5%	1/4W
R902	1-249-422-11	CARBON	2.7K	5%	1/4W
R903	1-249-419-11	CARBON	1.5K	5%	1/4W
R904	1-249-419-11	CARBON	1.5K	5%	1/4W
RV071	1-238-601-11	RES, ADJ, CARBON, 22K			
RV072	1-238-601-11	RES, ADJ, CARBON, 22K			
RV301	1-238-600-11	RES, ADJ, CARBON 10K			
RV302	1-238-600-11	RES, ADJ, CARBON 10K			
RV303	1-238-600-11	RES, ADJ, CARBON 10K			
RV351	1-238-600-11	RES, ADJ, CARBON 10K			
RV352	1-238-600-11	RES, ADJ, CARBON 10K			
RV353	1-238-600-11	RES, ADJ, CARBON 10K			
RV401	1-238-603-11	RES, ADJ, CARBON 100K			
RV451	1-238-603-11	RES, ADJ, CARBON 100K			
RV701	1-238-830-21	RES, VAR, CARBON 100K/100K			
RV702	1-238-830-21	RES, VAR, CARBON 100K/100K			

Ref.No.	Part No.	Description
RV703	1-238-831-21	RES, VAR, SLIDE 250K/250K
RV704	1-238-831-21	RES, VAR, SLIDE 250K/250K
RV705	1-238-831-21	RES, VAR, SLIDE 250K/250K
RV706	1-238-831-21	RES, VAR, SLIDE 250K/250K
RV707	1-238-831-21	RES, VAR, SLIDE 250K/250K
RV708	1-238-829-21	(HMK-V102)...RES, VAR, CARBON 100K/100K (VOL)
RV708	1-238-875-21	(HST-V202)...RES, VAR, CARBON 100K/100K (VOL)
RY501	1-515-614-11	RELAY
RY801	1-515-533-11	RELAY
S101	1-570-715-11	(TCM-YMW47C)...SWITCH, LEAF
S102	1-570-430-11	(TCM-YMW47C).....SWITCH, LEAF
S102	1-571-736-11	(TCM-180VW-N1)...SWITCH, LEAF
S103	1-571-736-11	(TCM-180VW-N1)...SWITCH, LEAF
S103	1-572-040-11	(TCM-YMW47C).....SWITCH, LEAF
S104	1-570-715-11	(TCM-YMW47C).....SWITCH, LEAF
S105	1-570-430-11	(TCM-YMW47C).....SWITCH, LEAF
S105	1-571-736-11	(TCM-180VW-N1)...SWITCH, LEAF
S106	4-895-068-01	(HMK-V102)...LIEF, SW
S401	1-570-715-11	(TCM-YMW47C)...SWITCH, LEAF
S501	1-572-149-21	SWITCH, PUSH (2 KEY)
S901	1-572-109-11	SWITCH, PUSH (AC POWER)(1 KEY)
SW201	1-554-303-21	SWITCH, KEY BOARD
SW202	1-554-303-21	SWITCH, KEY BOARD
SW203	1-554-303-21	SWITCH, KEY BOARD
SW204	1-554-303-21	SWITCH, KEY BOARD
SW205	1-554-303-21	SWITCH, KEY BOARD
SW206	1-554-303-21	SWITCH, KEY BOARD
SW207	1-554-303-21	SWITCH, KEY BOARD
SW208	1-554-303-21	SWITCH, KEY BOARD
SW209	1-554-303-21	SWITCH, KEY BOARD
SW210	1-554-303-21	SWITCH, KEY BOARD
SW211	1-554-303-21	SWITCH, KEY BOARD
SW212	1-554-303-21	SWITCH, KEY BOARD
SW214	1-554-303-21	SWITCH, KEY BOARD
SW215	1-554-303-21	SWITCH, KEY BOARD
SW216	1-554-303-21	SWITCH, KEY BOARD
T051	1-404-807-11	TRANSFORMER, DISCRIMINATOR
T501	1-433-349-11	TRANSFORMER, BIAS OSCILLATION
T901	1-449-873-21	TRANSFORMER, POWER
TB001	*1-537-288-11	TERMINAL BOARD (PAL)(ANTENNA)

Ref.No.	Part No.	Description
TN1	1-535-476-11	TERMINAL
TN2	1-535-476-11	TERMINAL
TP1	*1-560-061-00	PIN, CONNECTOR 3P (L,R)
TP2	*1-560-060-00	PIN, CONNECTOR 2P (NULL)
X201	1-567-775-11	VIBRATOR, CERAMIC (4.19MHz)
XT101	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)

ACCESSORY & PACKING MATERIAL

1-501-369-11	(IT)...ANTENNA
1-501-374-11	ANTENNA, LOOP
1-465-358-11	(HST-V202)...COMMANDER, REMOTE (RM-S130)
2-181-754-01	(HST-V202)...COVER, BATTERY (REMOTE)
3-751-142-41	(HMK-V102)...MANUAL, INSTRUCTION (GERMAN/DUTCH/SWEDISH/ITALIAN)
3-751-343-41	(HST-V202)...MANUAL, INSTRUCTION (GERMAN/DUTCH/SWEDISH/ITALIAN)
4-921-934-01	SHEET, PROTECTION
*4-935-318-01	(HMK-V102)...CUSHION (UPPER)
*4-935-319-01	(HMK-V102)...CUSHION (LOWER)
*4-935-383-01	(HST-V202)...CUSHION
*4-935-376-01	(HMK-V102)...INDIVIDUAL CARTON
*4-935-380-01	(HST-V202)...INDIVIDUAL CARTON

Note:
The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

HMK-V82/V102

HST-V102/V202

SONY SERVICE MANUAL

US Model
Canadian Model
HST-V102

AEP Model
HMK-V82/V102
HST-V202

UK Model
HMK-V102
HST-V202

CORRECTION-1

Correct your service manual as shown below.

 : indicates corrected portion.

Page	INCORRECT				CORRECT			
	<u>No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remarks</u>	<u>No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remarks</u>
29	317	3-358-258-31	SILDER (REW)		317	3-358-258-01	SLIDER (REW)	
	318	3-358-259-31	(DECK B) ... SILDER (REC)		318	3-358-259-01	(DECK B) ... SLIDER (REC)	

PS-LX40/LX40P/LX43P/LX44P

SERVICE MANUAL

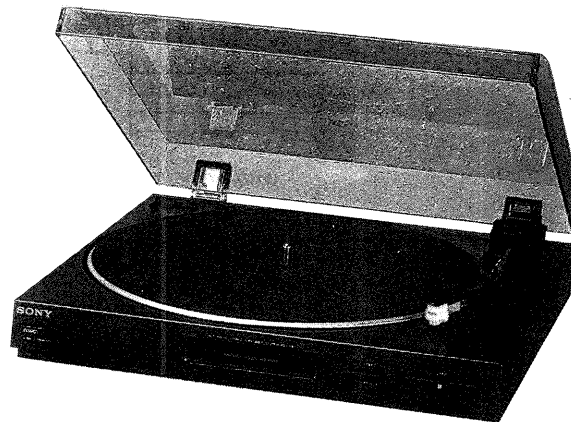


Photo : PS-LX40

US Model
PS-LX43P

AEP Model
PS-LX40P/LX43P

UK Model
PS-LX40P/LX43P/LX44P

E Model
PS-LX40/LX40P/LX43P

SPECIFICATIONS

Turntable

Platter	30 cm
Motor	DC servo motor
Drive system	Belt drive
Speed	33 $\frac{1}{3}$ rpm/45 rpm switchable
Wow and flutter	0.2% (WRMS)
Signal-to-noise ratio	50 dB (DIN-B)
Automatic system	Return, reject

Tonearm

Type	Statically balanced
Pivot-to stylus length	203 mm
Overall arm length	235 mm

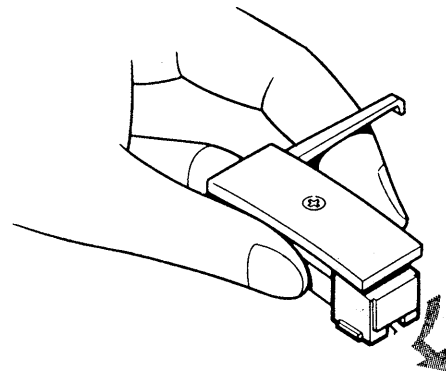
Cartridge

Type	Moving magnet type
Frequency response	20 Hz – 20kHz
Stylus	ND-155G

General

Dimensions	Approx. 355 × 95 × 345 mm (14 × 3 $\frac{3}{4}$ × 13 $\frac{5}{8}$ inches)
Weight	PS-LX40 : Approx. 2.5 kg PS-LX40P/LX43P/LX44P : Approx. 2.1 kg (4 lb 11 oz)
Power requirements	PS-LX40: 110 – 120 V, 220 – 240 V AC adjustable, 50/60 Hz PS-LX40P/LX43P/LX44P : 12V DC. Supplied from STEREO DECK RECEIVER (HST-).
Power consumption	4 W
Accessory supplied	45-rpm adaptor (1)
Optional accessories	Replacement stylus ND-155G

REPLACING THE STYLUS



Replace the stylus after about 400 hours of use because using a worn stylus will damage records.

An ND-155G replacement stylus is available at your Sony dealer. Be sure to turn the amplifier off before proceeding with replacement.

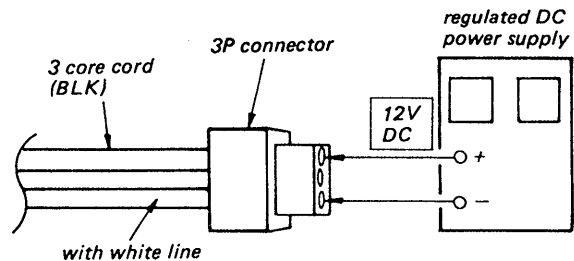
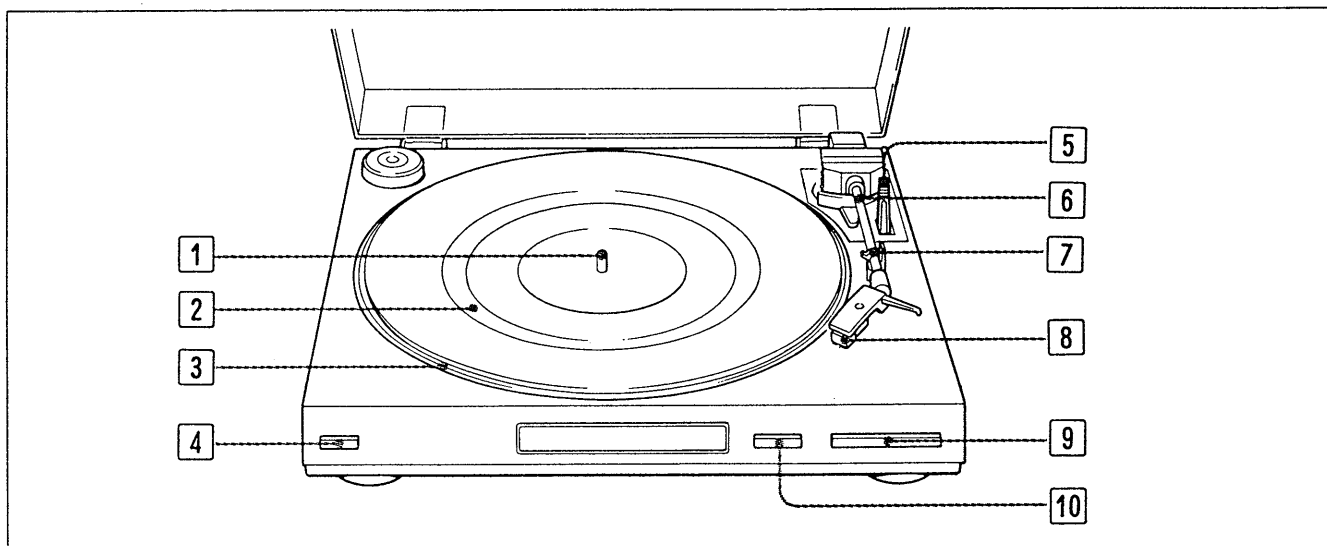
- 1 While holding the cartridge, detach the stylus assembly as illustrated.
- 2 Insert the new stylus into the cartridge.

Design and specifications subject to change without notice.

STEREO TURNTABLE SYSTEM
SONY®

REPAIRING PRECAUTION (PS-LX40P/LX43P/LX44P only)**[To supply B+ voltage]**

The power of this unit is fed from HST-D201, D301, D301CD or D501CD. Because of this, connect the regulated power supply as illustrated right when this unit alone operates.

**LOCATION AND FUNCTION OF CONTROLS**

1 Center spindle

2 Rubber mat

3 Turntable platter

4 POWER switch (PS-LX40 only)

5 Cueing lever (▼/▼)

6 Tonearm

7 Arm rest

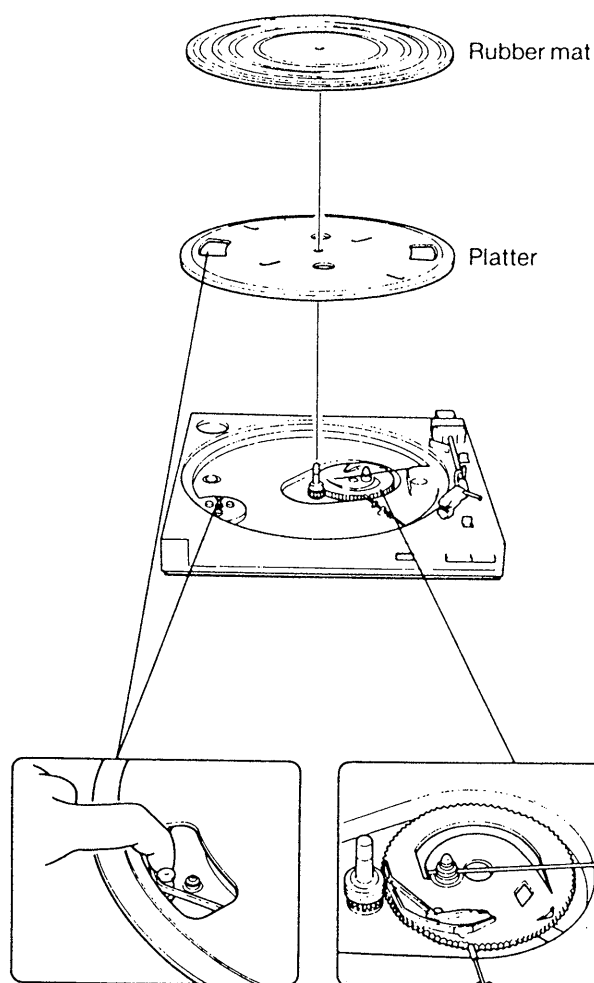
8 Cartridge

9 REJECT button

10 SPEED select button

Allows selection of 45 rpm or 33 rpm turntable speed.

TURNTABLE ASSEMBLY



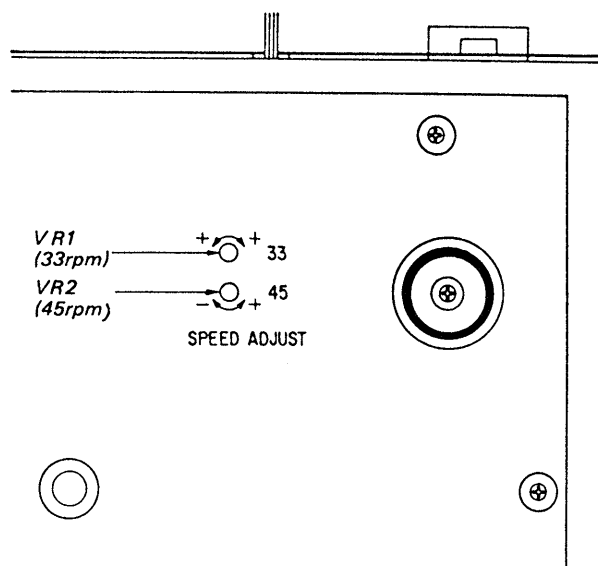
Hook the belt on the motor pulley.

If the belt is removed from the platter, replace it with the glossy side outward.

Speed Adjustment

Note: Be sure to perform 45rpm adjustment before 33 rpm.

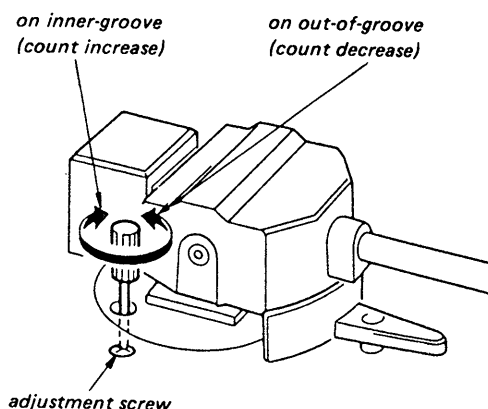
1. Place a stroboscope board on the turntable sheet.
2. Set the SPEED switch to 45.
Press the START button.
Adjust VR2 so that the stripped pattern of stroboscope board is stationary.
3. Set the SPEED switch to 33.
Adjust VR1 in the same way.



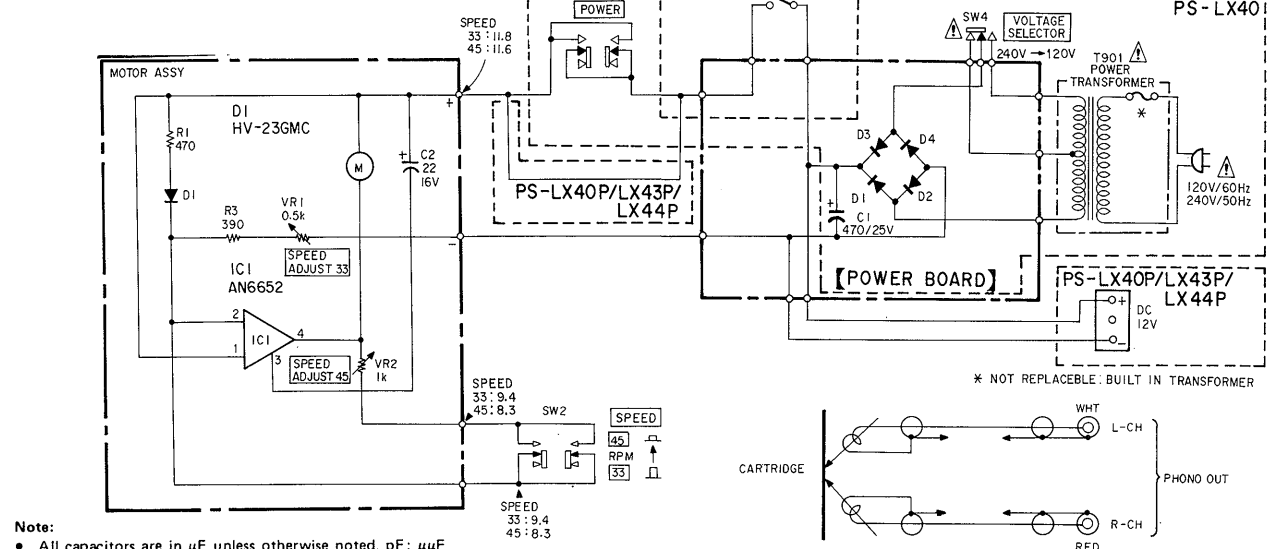
Stylus Drop-point Adjustment

1. Place a test record (YFSC-16) on the turntable sheet.
2. Set the SPEED switch to 33.
3. Press the START button.
4. By using a screwdriver, turn the adjustment screw so that the stylus tip drops on the record at the 7-17 counts position.
5. Move the arm to return detecting groove and confirm that the auto-return operation is started normally.

Note: The proper adjustment for a 30cm record is also correct for a 17cm record:
When turning adjustment screw, put the arm on the arm rest.



SCHEMATIC DIAGRAM

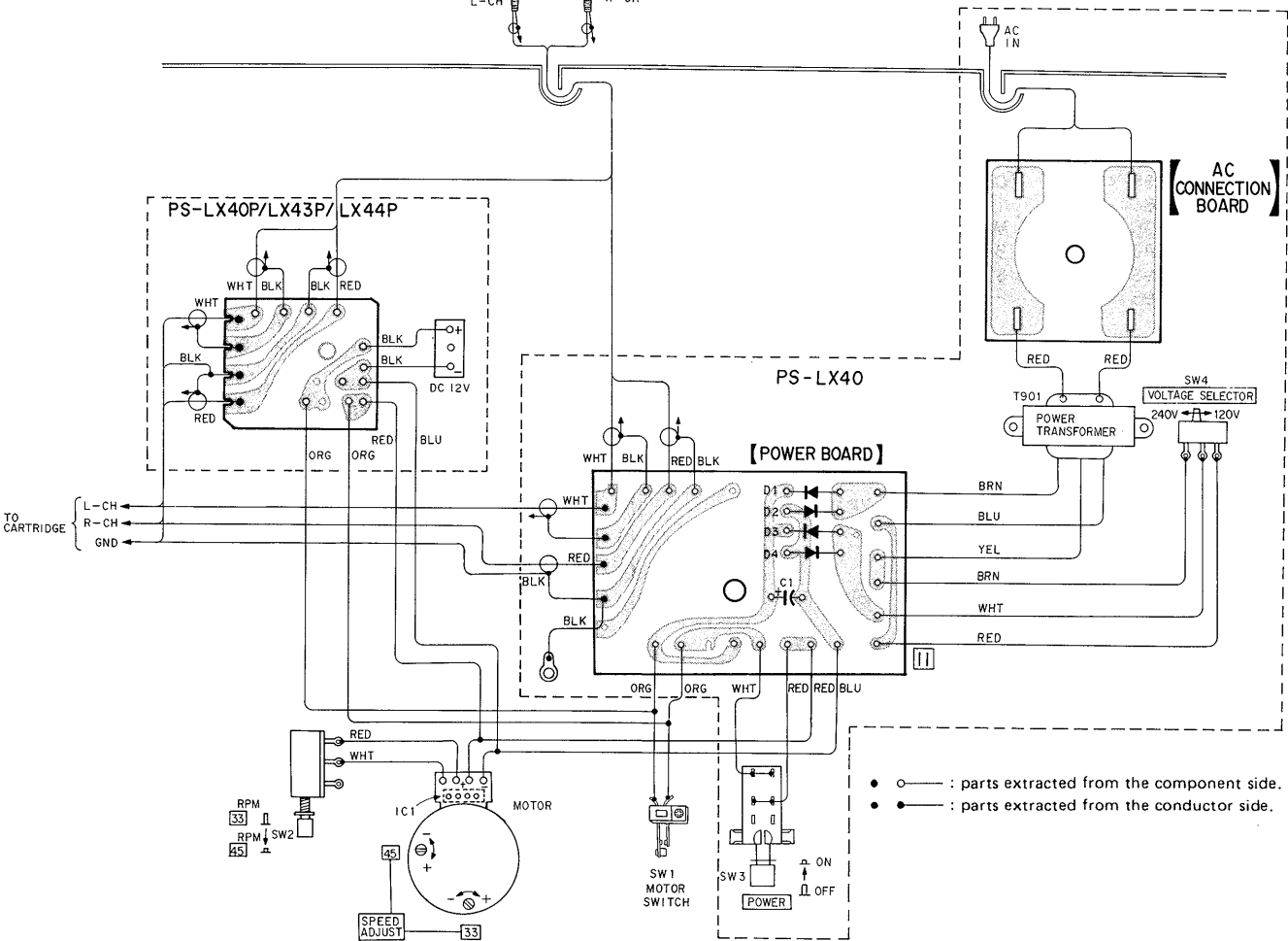


- Note:
- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
 - All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
 - Switches:

Ref. No.	Switch	Position
SW1	MOTOR	OFF
SW2	SPEED	33
SW3	POWER	OFF
SW4	VOLTAGE SELECTOR	240V

Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

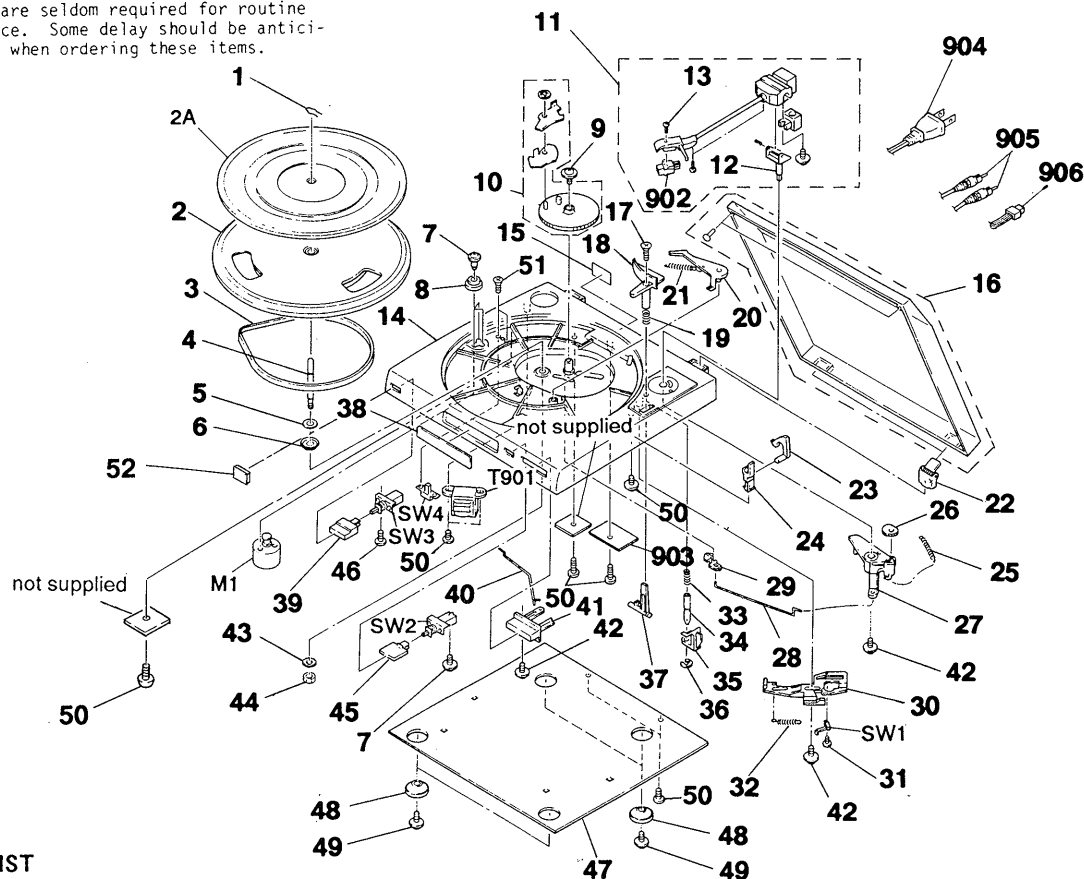
WIRING DIAGRAM



EXPLODED VIEW

NOTE:

- NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
 - Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
 - The construction parts of an assembled part are indicated with a collation number in the remark column.
- 11**



PARTS LIST

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	4-895-490-01	CLIP, SPINDLE		23	4-895-418-01	P. U. TUBE HOOK	
2	A-4604-243-A	TURNTABLE ASSY (Platter)		24	4-895-417-01	P. U. REST	
2A	4-896-518-01	MAT, TURNTABLE		25	4-895-460-01	ADJUST SPRING	
3	4-880-655-01	BELT		26	4-895-818-01	ADJUST CAM	
4	4-896-361-01	SPINDLE		27	*4-896-372-01	LINK, RETURN	
5	4-895-024-01	POLY WASHER		28	*4-896-371-01	ROD, TRIP	
				29	4-896-304-01	LEVER, TRIP	
6	*4-895-404-01	SPINDLE WASHER		30	*4-896-373-01	ARM, SLIDE	
7	7-685-646-79	SCREW, TA +BV3x8					
8	4-895-414-01	GROMMET (A)		31	7-685-104-19	SCREW, +P2x6	
9	4-896-294-01	SCREW (7-BID 3006 ZN3A 10D)		32	4-896-374-01	SPRING (SLIDE ARM)	
10	4-895-495-01	GEAR, CAM, CLUTCH		33	4-896-251-01	SPRING (B)	
				34	4-896-252-01	SHAFT, ARM LIFT	
11	A-4604-242-A	ARM ASSY	902	35	4-896-253-01	FORK, LIFT	
12	4-895-464-01	P. U. HINGE BRACKET					
13	7-627-553-98	SCREW, PRECISION +P2x8		36	4-896-254-01	RING (DIA.3), E	
14	4-896-362-01	(LX40P:GRAY)...CABINET		37	4-896-212-01	LEVER, CUE	
	4-896-387-01	(LX40P).....CABINET		38	4-896-366-01	PANEL, FRONT	
	4-896-504-01	(LX40P:WHITE)...CABINET		39	4-896-388-01	(LX40)...BUTTON, POWER	
	4-896-544-01	(LX43P:GRAY)...CABINET		40	4-896-367-01	LOT (REJECT)	
	4-896-545-01	(LX43P:WHITE)..CABINET					
	4-896-546-01	(LX44P).....CABINET		41	4-896-368-01	(GRAY)...BUTTON, STOP	
15	*4-896-347-01	(LX40)...LABEL, MODEL NUMBER			4-896-398-01	(WHITE).....BUTTON, STOP	
	*4-896-348-01	(LX40P)...LABEL, MODEL NUMBER		42	4-896-369-01	SCREW (7-CUP 3008 WF12 ZN3A)	
	*4-896-348-11	(LX40P:West Germany)		43	7-623-424-07	LW 5	
		...LABEL, MODEL NUMBER		44	7-684-024-04	N 4	
				45	4-896-370-01	(GRAY)...BUTTON, SPEED	
16	A-4620-041-A	COVER ASSY, DUST			4-896-399-01	(WHITE).....BUTTON, SPEED	
17	7-621-561-49	SCREW, +K2.6x12					
18	4-896-258-01	PLATFORM, LIFT		47	4-896-376-01	PLATE, BOTTOM	
19	4-896-267-01	SPRING (A)		48	4-895-435-01	FOOT	
20	4-896-364-01	LEVER, REJECT		49	4-896-377-01	SCREW (7-CUP 3010 WF12 ZN3A)	
				50	4-896-375-01	SCREW (7-CUP 3012 WF08 ZN3K)	
21	4-896-365-01	SPRING (C)		51	7-621-775-20	SCREW, +B2.6x5	
22	4-895-410-01	HINGE ASSY		52	4-925-161-21	(LX44P).....EMBLEM (4-A), SONY	

ELECTRICAL PARTS**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>
902	1-549-135-11	CARTRIDGE
903	- - -	(LX40)...PC BOARD, POWER
904	 1-555-795-00	(LX40:AEP, West Germany, Saudi Arabia) CORD, POWER, EULO PLUG
	 1-551-188-XX	(LX40:E)...CORD, POWER
905	1-555-116-11	CORD, CONNECTION
906	1-557-109-21	(LX40P/LX43P/LX44P)...CORD, CONNECTION (3 CORE)
C1	1-123-336-00	ELECT 470 μ F 25V
D1	8-719-200-02	(LX40)...DIODE 10E2
D2	8-719-200-02	(LX40)...DIODE 10E2
D3	8-719-200-02	(LX40)...DIODE 10E2
D4	8-719-200-02	(LX40)...DIODE 10E2
M1	A-4604-244-A	MOTOR ASSY
SW1	1-570-666-11	SWITCH, LEAF
SW2	1-571-089-11	SWITCH, PUSH (1 KEY) (SPEED)
SW3	1-571-560-11	(LX40)...SWITCH, PUSH (1 KEY) (POWER)
SW4	 1-571-088-11	(LX40)...SWITCH, SLIDE (VOLTAGE SELECTOR)
T901	 1-449-291-11	(LX40)...TRANSFORMER, POWER

ACCESSORY & PACKING MATERIAL

3-701-806-00	ADAPTOR, 45
3-750-345-11	(LX40)...MANUAL, INSTRUCTION (English, French, Spanish)
4-896-513-01	(LX40)...INDIVIDUAL CARTON
4-896-384-01	(EXCEPT LX40).....CUSHION(R)
4-896-385-01	(EXCEPT LX40).....CUSHION(L)

CDP-M18/M19/M39

SERVICE MANUAL

Discard CDP-M18 Service Manual
(No. 9-955-526-11) previously issued.
This Service Manual contains it.

AEP Model
UK Model



Photo : CDP-M18

Model Name Using Similar Mechanism	CDP-190/390
CD Mechanism Name	CDM14A-5K
Base Unit Name	BU-5K

SPECIFICATIONS

Compact disc player

Frequency response	2 Hz - 20 kHz $\pm 1\frac{1}{2}$ dB
Signal to noise ratio	More than 93 dB
Dynamic range	More than 90 dB
Harmonic distortion	Less than 0.05%
Channel separation	More than 90 dB

Outputs

LINE OUT (phono jacks)	Output level 2 V (at 50 kilohms) Load impedance over 10 kilohms
CDP-M19/M39 : PHONES (stereo phone jack)	Output level max. 10 mW Load impedance 32 ohms

General

Power requirements	AEP model : 220 V AC (or 240 V AC adjustable by Sony personnel), 50/60 Hz UK model : 240 V AC (or 220 V AC adjustable by Sony personnel), 50/60 Hz
--------------------	---

Power consumption	10 W
Dimensions (approx. , including projections)	355 $\times$ 95 $\times$ 305 mm (w/h/d) (14 $\times$ 3 $\frac{3}{4}$ $\times$ 11 $\frac{7}{8}$ inches)
Weight (approx.)	2.8 kg (6 lbs 3 oz)

Remote commander	RM-D90 (CDP-M39)
------------------	------------------

Remote control system	Infrared control
Power requirements	3 V DC with two R6 (size AA) batteries
Dimensions	Approx. 43 $\times$ 20 $\times$ 175 mm (w/h/d) (1 $\frac{3}{4}$ $\times$ $\frac{9}{16}$ $\times$ 7 inches)
Weight	Approx. 105 g (3.7 oz) Including batteries

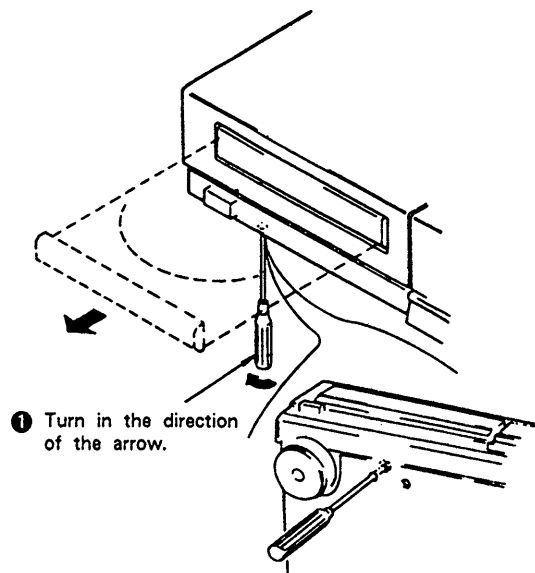
Design and specifications subject to change without notice.

COMPACT DISC PLAYER
SONY[®]

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SECTION 6. ELECTRICAL PARTS LIST 21		
SUPPLEMENT-1		

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF

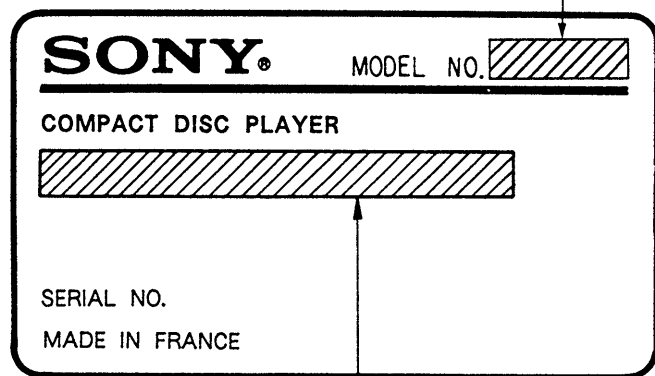


Caution : When you work, keep the set horizontal.

MODEL IDENTIFICATION

—Specification Labels—

CDP-M18
CDP-M19
CDP-M39



AEP model : AC 220V~50/60Hz
UK model : AC 240V~50/60Hz

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body. During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts. The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 25 cm away from the objective lens.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

1. Laser Diode Properties

- Material: GaAlAs
- Wavelength: 780 nm
- Emission Duration: continuous
- Laser Output: max. 44.6 μ W*

* This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC board).

BESKYTTELSE AF ØJNE MOD LASERSTRÅLING UNDER SERVICE

I dette apparat anvendes laserlys. Derfor skal nedenstående instruktioner nøje følges under service.

Følg iøvrigt instruktionerne i servicemanualen.

ADVARSEL!!

Under service må øjnene ikke komme nær objektiv-linsen på den optiske pick-up enhed. I tilfælde af at det er nødvendigt at kontrollere udsendelsen af laserlys, skal det ske i en afstand af mere end 25 cm fra den optiske pick-up.

1. Laser-dioe data

- Materiale: GaAlAs
- Bølgelængde: 780 nm
- Udstråling: Kontinuerlig
- Laseroutput: Max. 0,4 mW*

* Målt i 1,6 mm afstand fra overfladen af objektiv-linsen på den optiske pick-up enhed.

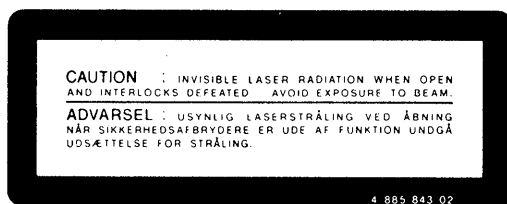
- Klassifikation: Klasse IIIb.

2. Adskil aldrig den optiske pick-up enhed under service, og juster ikke APC kredsløbet (Automatic Power Control). Hvis APC kredsløbet (incl. laserdioden) bryder ned, skal hele den optiske pick-up enhed (incl. APC printkortet) udskiftes.

LASER ADVARSEL MÆRKNING

Følgende mærkning findes indvendig i apparatet:

1. Advarsel Mærkning

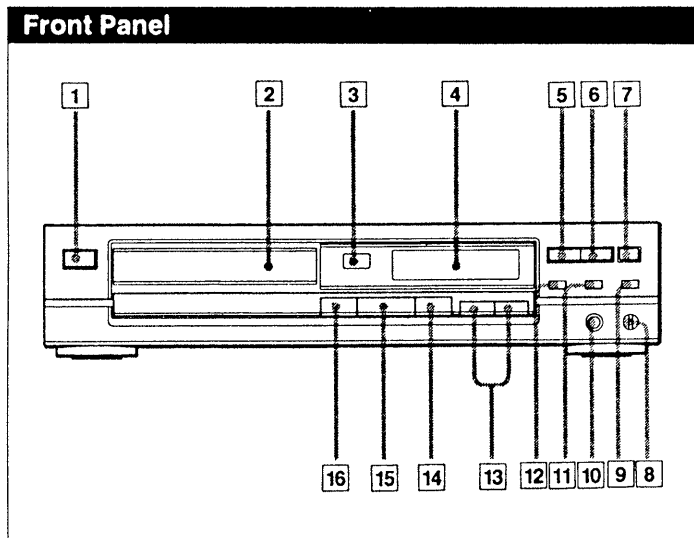


VAROITUS: Laite sisältää, laserdiodin, joka lähettää (näkömätöntä) silmille vaarallista lasersäteilyä.

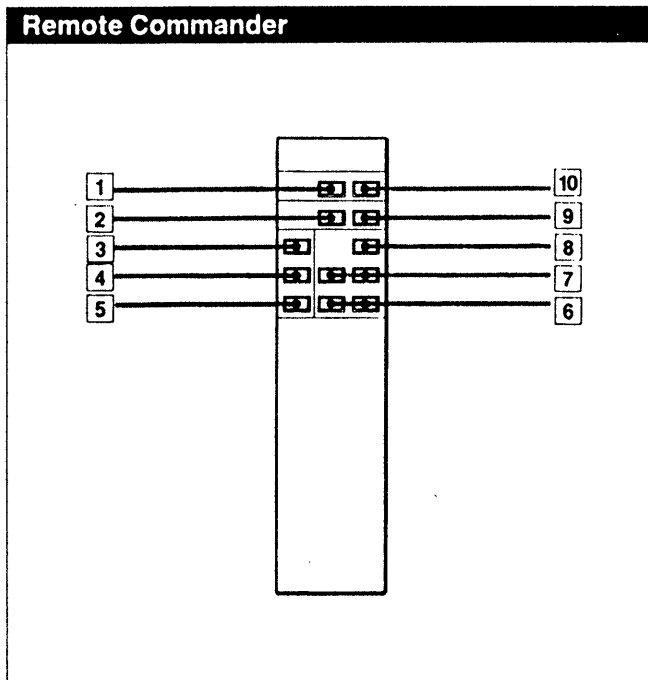
SECTION 1

GENERAL

1-1. LOCATION AND FUNCTION OF CONTROLS



- 1 POWER switch
- 2 Disc tray
- 3 Remote sensor
- 4 Display window
- 5 PROGRAM button
- 6 SHUFFLE button
- 7 REPEAT button
- 8 (headphone) LEVEL control (CDP-M19/M39)
- 9 MUSIC SCAN button
- 10 PHONES jack (CDP-M19/M39)
- 11 FADER button
- 12 TIME button
- 13 $\lll \lll \lll \lll$ (AMS*/RMS*/ $\lll \lll \lll \lll$) (manual search) buttons
- 14 $\blacksquare$ (stop)/PGM (program) CLEAR button
- 15 $\blacktriangleright \parallel$ (play/pause) button
- 16 $\blacktriangle$ (open/close) button



- 1 PGM (program) button
- 2 TIME button
- 3 $\blacktriangleright$ (play) button
- 4 $\parallel$ (pause) button
- 5 $\blacksquare$ (stop) button
- 6 $\lll \lll \lll \lll$ (manual search) buttons
- 7 $\lll \lll \lll \lll$ (AMS*) buttons
- 8 FADER button
- 9 REPEAT button
- 10 SHUFFLE button

* AMS is an abbreviation of Automatic Music Sensor.

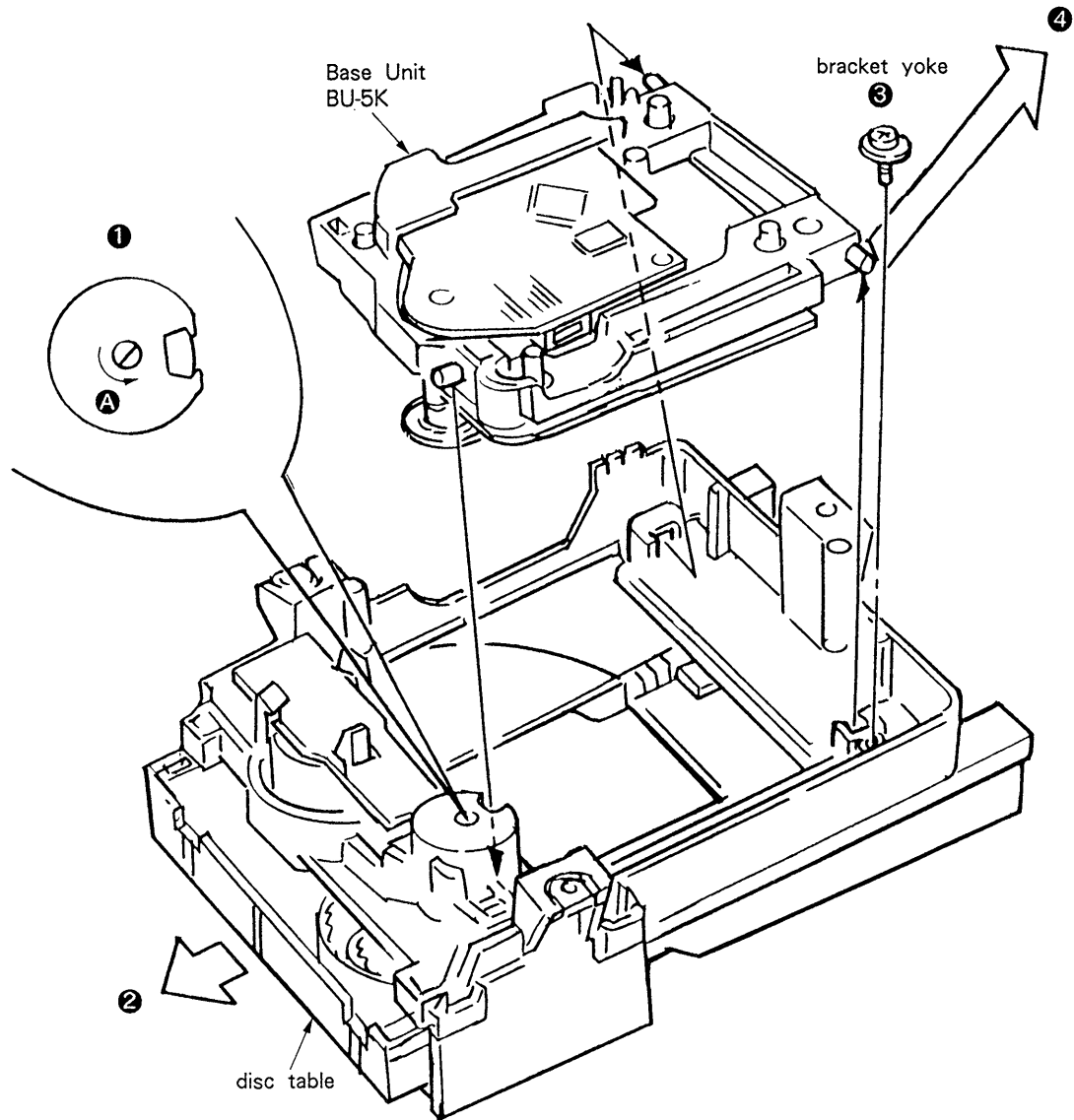
** RMS is the abbreviation of Random Music Sensor.

SECTION 2

DISSASSEMBLY OF BASE UNIT

Note: Follow the disassembly procedure in the numerical order given.

1. Remove CD mechanism from the set and turn over.
2. Turn the cam in the Arrow **A** direction by the  driver.
3. Take out disc table.
4. Remove bracket yoke.
5. Remove BU-5K in the Arrow **4** direction.

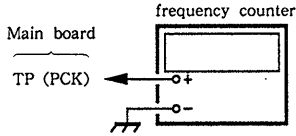


SECTION 3

ELECTRICAL ADJUSTMENTS

1. Perform adjustments in the order given.
2. Use YEDS-18 (Part No : 3-702-101-1) disc unless otherwise indicated.
3. Use the oscilloscope with more than 10 M Ω impedance.

RF PLL Frequency Adjustment/Lock Frequency Check Procedure :

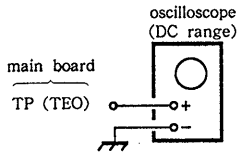


1. Connect test point TP (ASY) to ground with lead wire.
2. Turn POWER switch on.
3. Connect the frequency counter to test point TP (PCK).
4. Adjust RV201 so that the reading on frequency counter is 4,3218 MHz $\pm$ 30 KHz.
.....(RF PLL frequency adjustment)
5. Remove lead wire connecting TP (ASY) to ground.
6. Set disc (YEDS-18) and press $\triangleright$ PLAY button.
7. Confirm that the reading on frequency counter is 4,3218 MHz.
.....(Lock frequency check)
8. Turn POWER switch off.

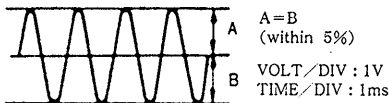
E-F Balance Adjustment

This adjustment should be made when replacing TOP (T-type Optical Pick-up).

Procedure :



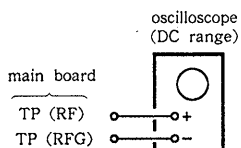
1. Connect test point TP (ADJ) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO).
3. Set disc (YEDS-18) and turn POWER switch on.
4. Adjust RV101 so that the traverse waveform is symmetrical above and below.
5. Turn POWER switch off.
6. After adjustment, remove the lead wire connected in step 1.



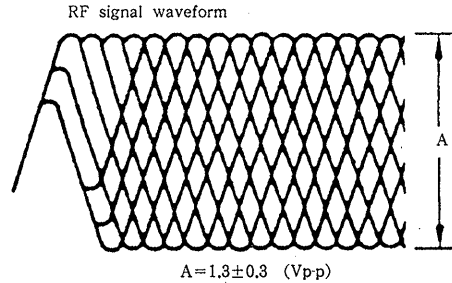
Focus Bias Adjustment

This adjustment should be made when replacing TOP (T-type Optical Pick-up).

Procedure :



1. Connect oscilloscope to test point TP (RF) and test point TP (RFG).
2. Set disc (YEDS-18) and turn POWER switch on.
3. Adjust RV102 for an optimum waveform eye pattern or so that the peak is maximum. Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the waveform.
4. Turn POWER switch off.



REFERENCE

Focus/Tracking Gain Adjustments

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow up (vertical and horizontal) relative to mechanical noise and shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

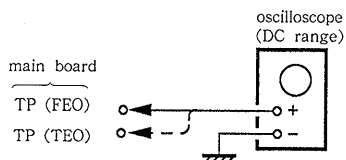
Symptoms	Gain	Focus	Tracking
• The time until music starts becomes longer for ■STOP $\rightarrow$ $\triangleright$ PLAY or automatic selection. ($\ll$, $\gg$ buttons pressed.) (Normally takes about 1 seconds.)		low	low or high
• Music does not start and disc continues to rotate for ■STOP $\rightarrow$ $\triangleright$ PLAY or automatic selection. ($\ll$, $\gg$ buttons pressed.)		—	low
• Sound is interrupted during PLAY or time counter display stops progressing.		—	low
• More noise during 2-axis device operation.		high	high

The following is a simple adjustment method.

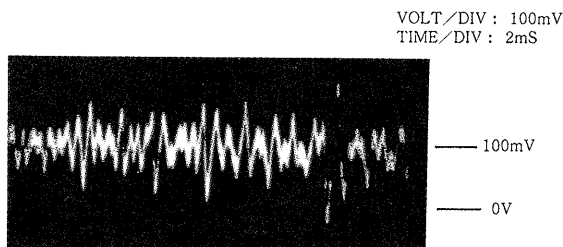
—Primary Adjustment—

Note : Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment.
If the position after the primary adjustment are only a little different, return the controls to the original position.

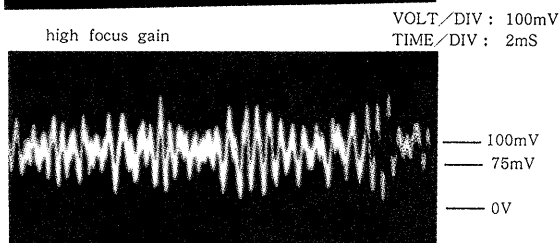
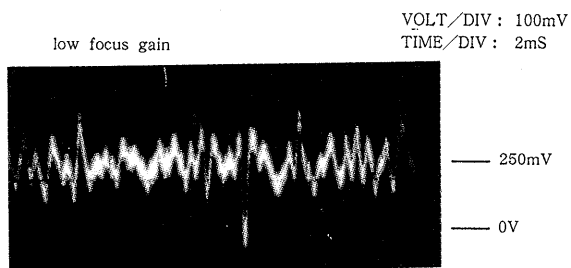
Procedure :



1. Keep the set horizontal.
(If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2. Set disc (YEDS-18) and turn POWER switch on.
3. Connect oscilloscope to main amp board TP (FEO).
4. Adjust RV103 so that the waveform is as shown in the figure below; (focus gain adjustment)



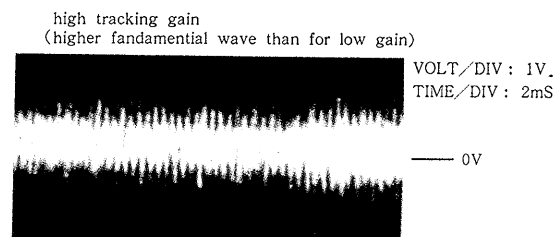
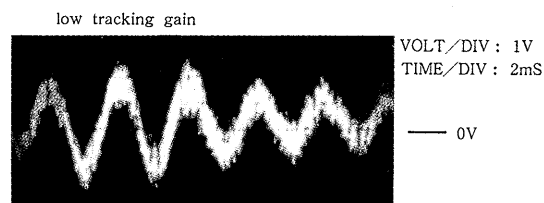
- Incorrect Examples (DC level changes more than on adjusted waveform)



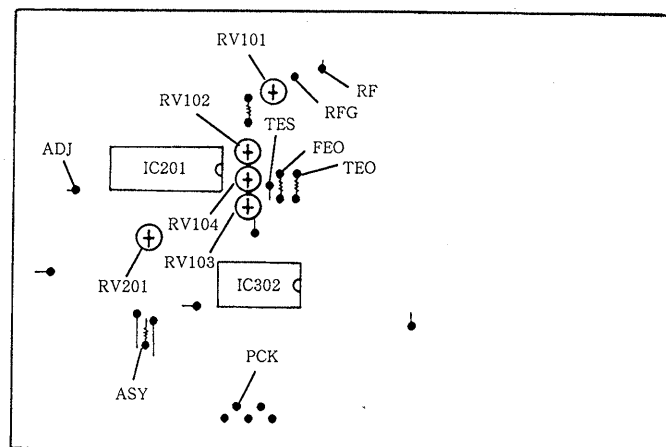
5. Connect oscilloscope to main board TP (TEO).
6. Adjust RV104 so that the waveform is as shown in the figure below. (tracking gain adjustment)
7. Turn POWER switch off.



- Incorrect Examples (fundamental wave appears)



Adjustment Location : main board —component side—



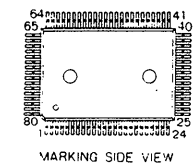
SECTION 4
DIAGRAMS

● SEMICONDUCTOR LOCATION

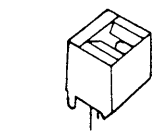
Ref. No	Location	Ref. No.	Location
IC001	E-17	D001	G-17
IC101	F-16	D002	G-17
IC201	E-14	D003	G-17
IC202	F-13	D004	G-17
IC203	F-12	D005	C-18
IC301	B-15	D007	D-17
IC302	C-15	D008	C-18
IC303	B-17	D401	C-17
IC304	B-16	D402	C-17
IC401	B-18	D501	B-6
IC402	A-19	D502	B-6
IC501	B-5	D503	B-6
IC721	B-10	D504	B-6
		D505	B-6
		D506	B-7
Q001	C-17	D507	B-7
Q101	G-15	D508	B-7
Q201	C-13	D509	B-7
Q202	C-13	D510	B-7
Q401	C-19		
Q402	B-17		
Q403	B-20		
Q404	B-20		
Q405	A-19		
Q453	B-19		
Q454	B-20		
Q455	A-19		

● SEMICONDUCTOR LEAD LAYOUTS

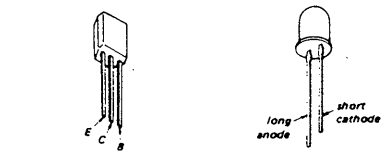
CXD1125Q 2SB1068K
μPD75308GF



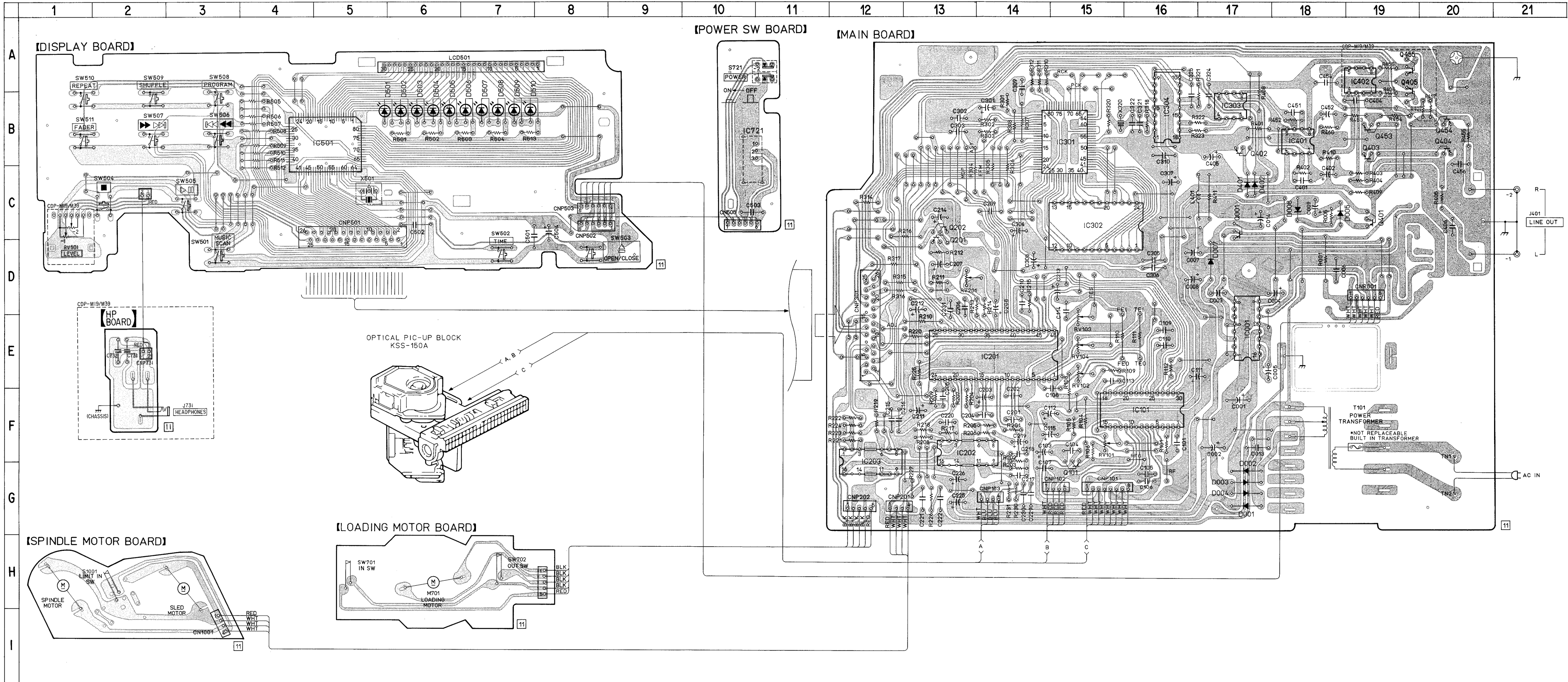
GP1U52XB 2SB1187



DTC114ES SEL3B10D
DTC143ES
DTC144ES
2SA1348



4-1. PRINTED WIRING BOARDS



Note:

- All capacitors are in μF unless otherwise noted. pF: μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{2}W$ or less unless otherwise specified.
- Δ : internal component.

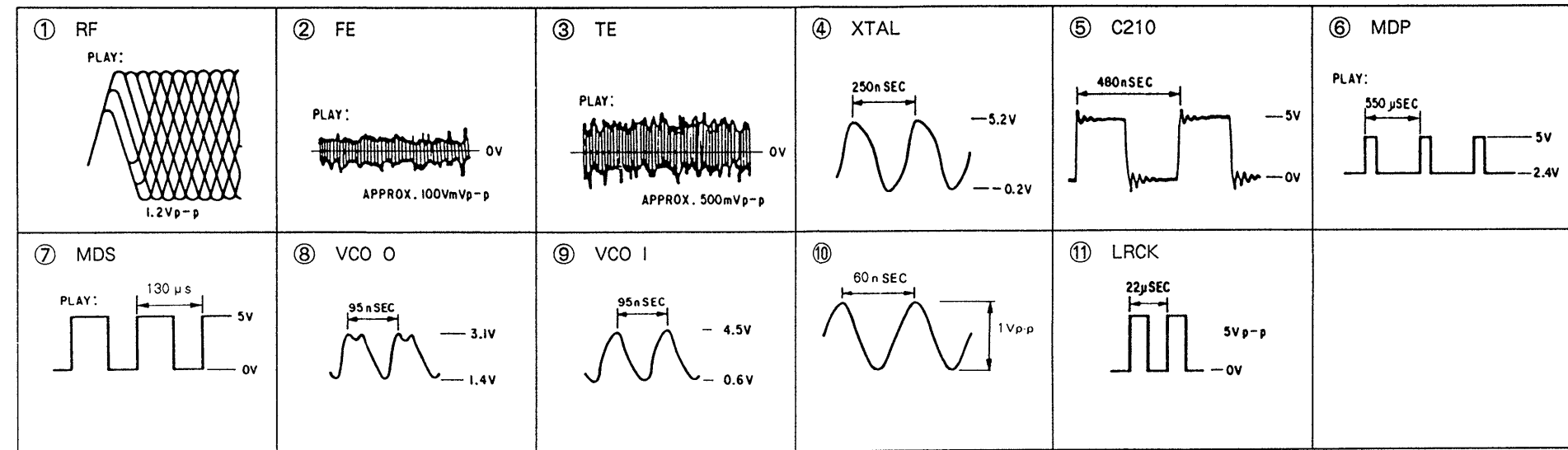
- B+**: B+ Line
- B-**: B- Line

$\square$: adjustment for repair.

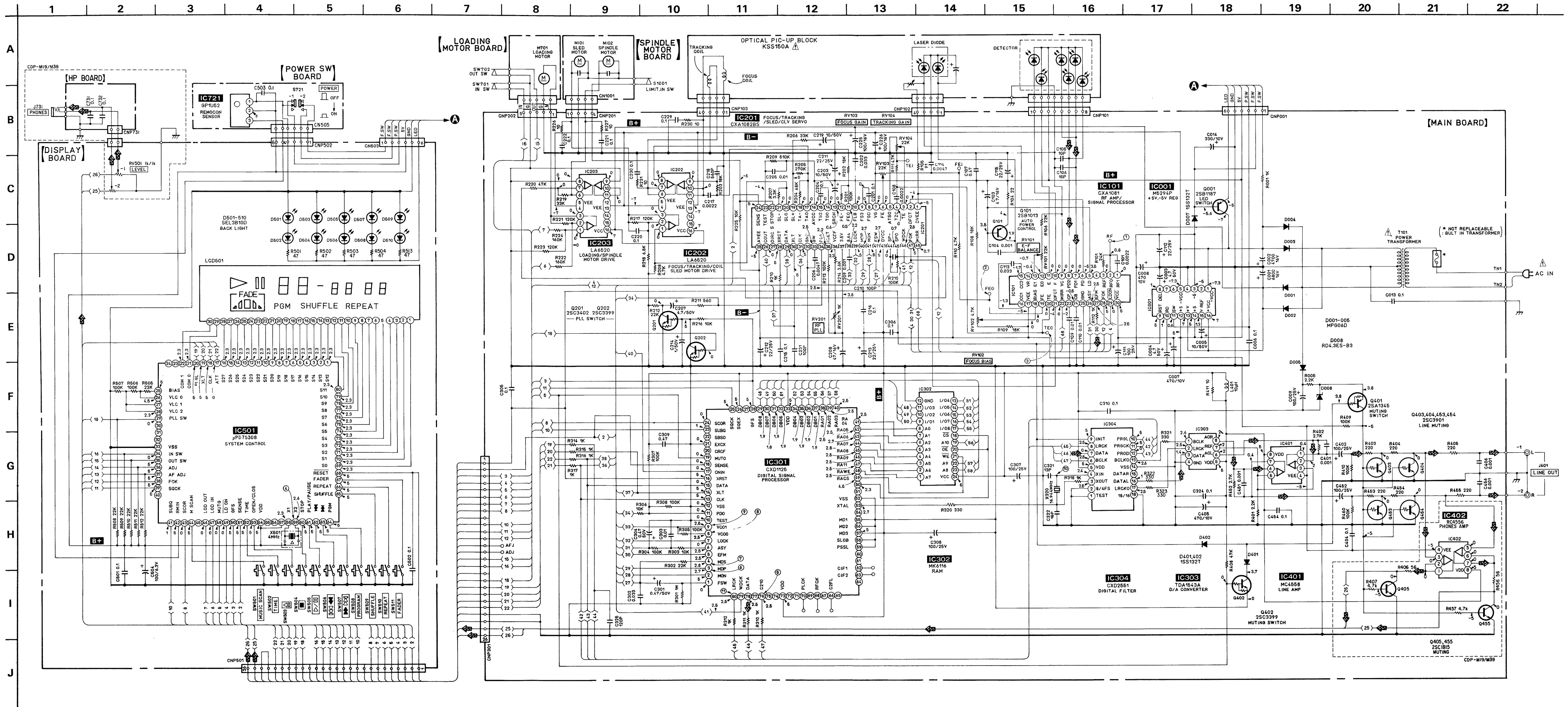
Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark: PLAY
- Voltages are taken with a VOM (input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- $\Rightarrow$: CD

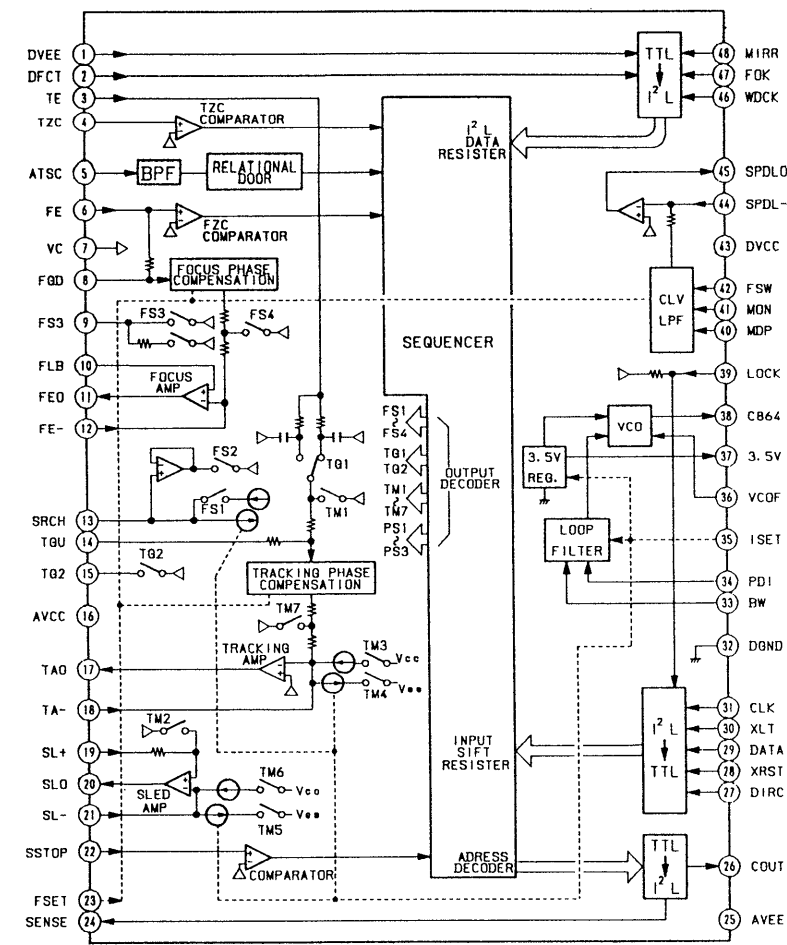
● WAVEFORM



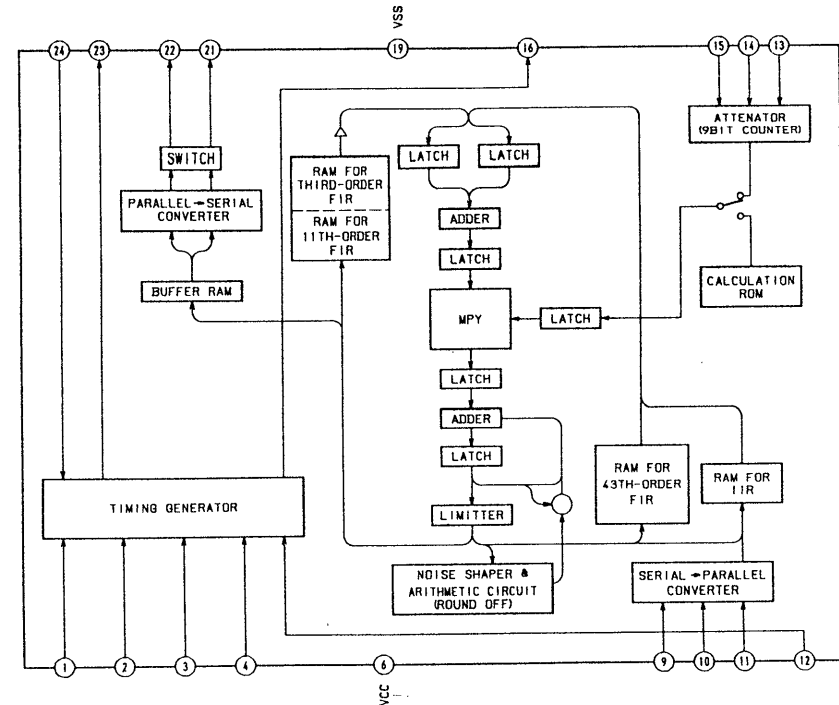
4-2. SCHEMATIC DIAGRAM



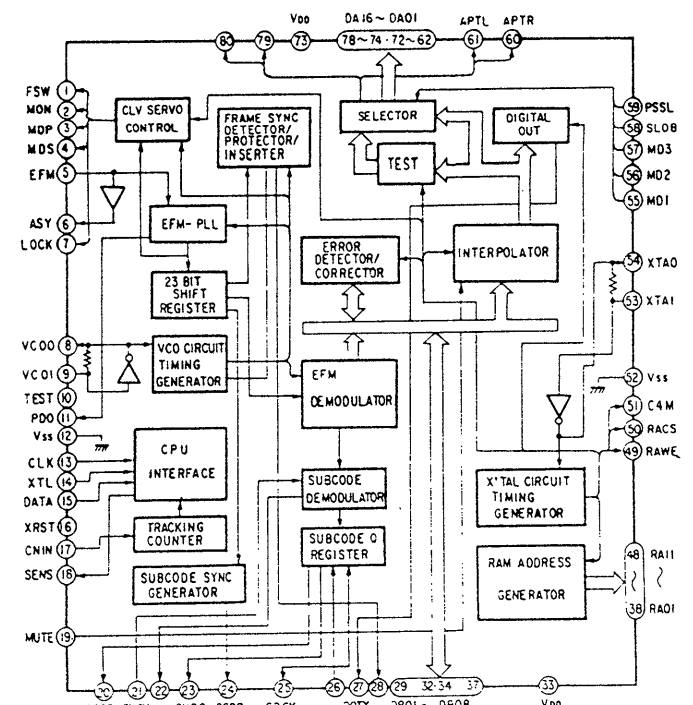
CXA1082BS



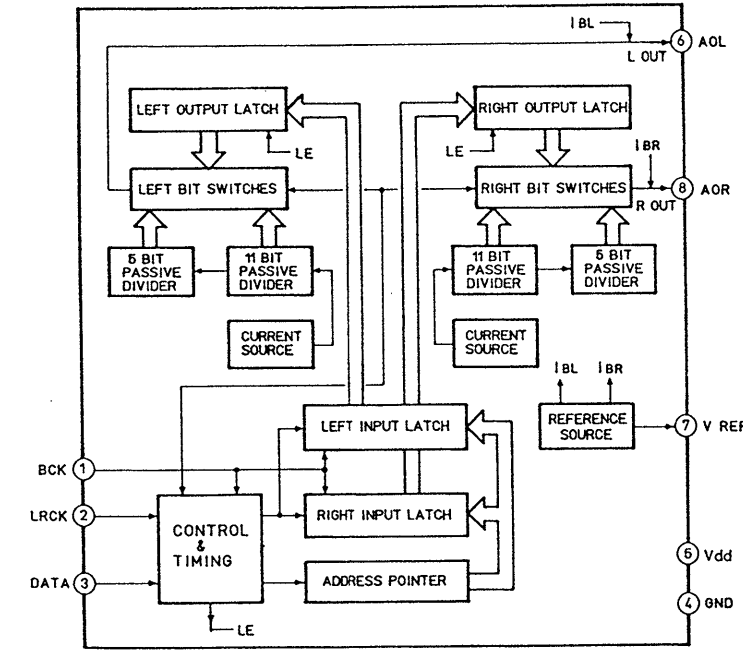
CXD2551P



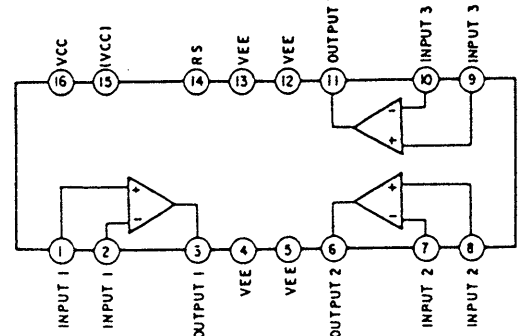
CXD1125Q



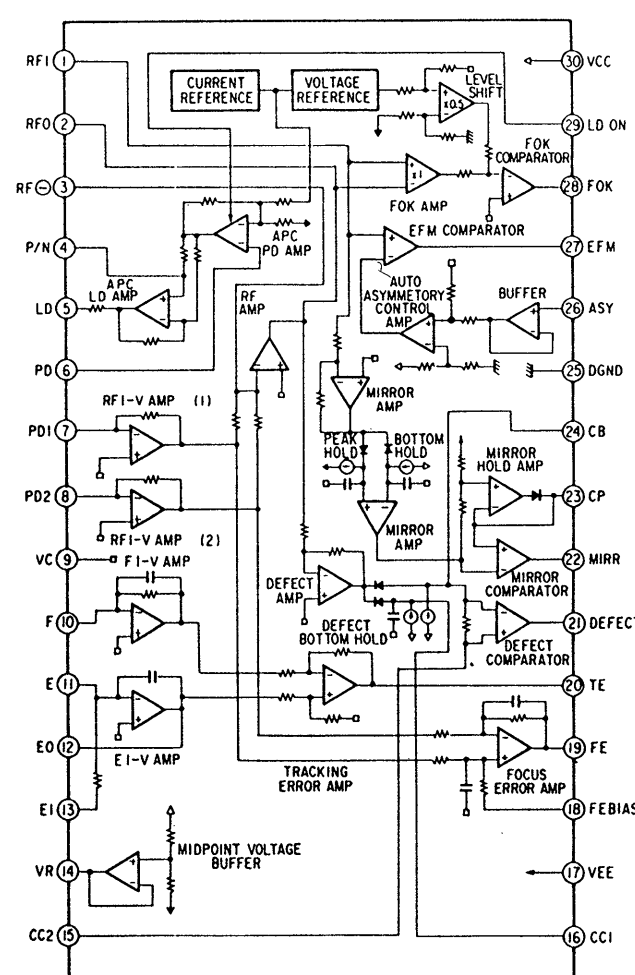
TDA1543



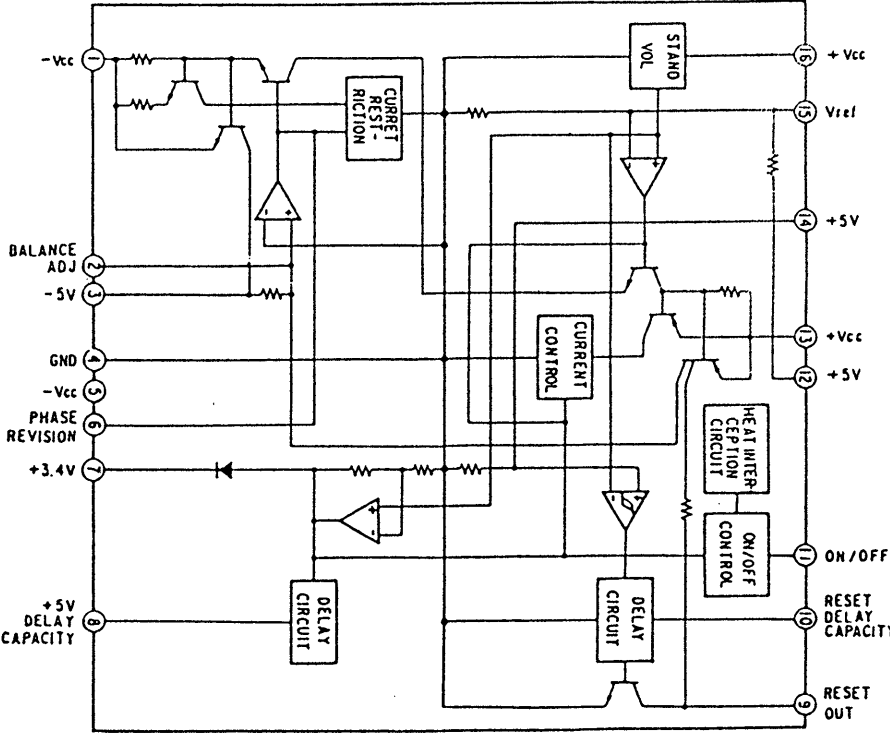
LA6520



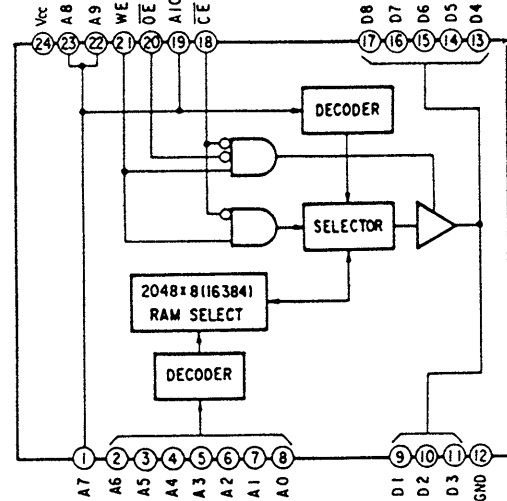
CXA1081S



M5294P



MK6116-15



SECTION 5

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked “★” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

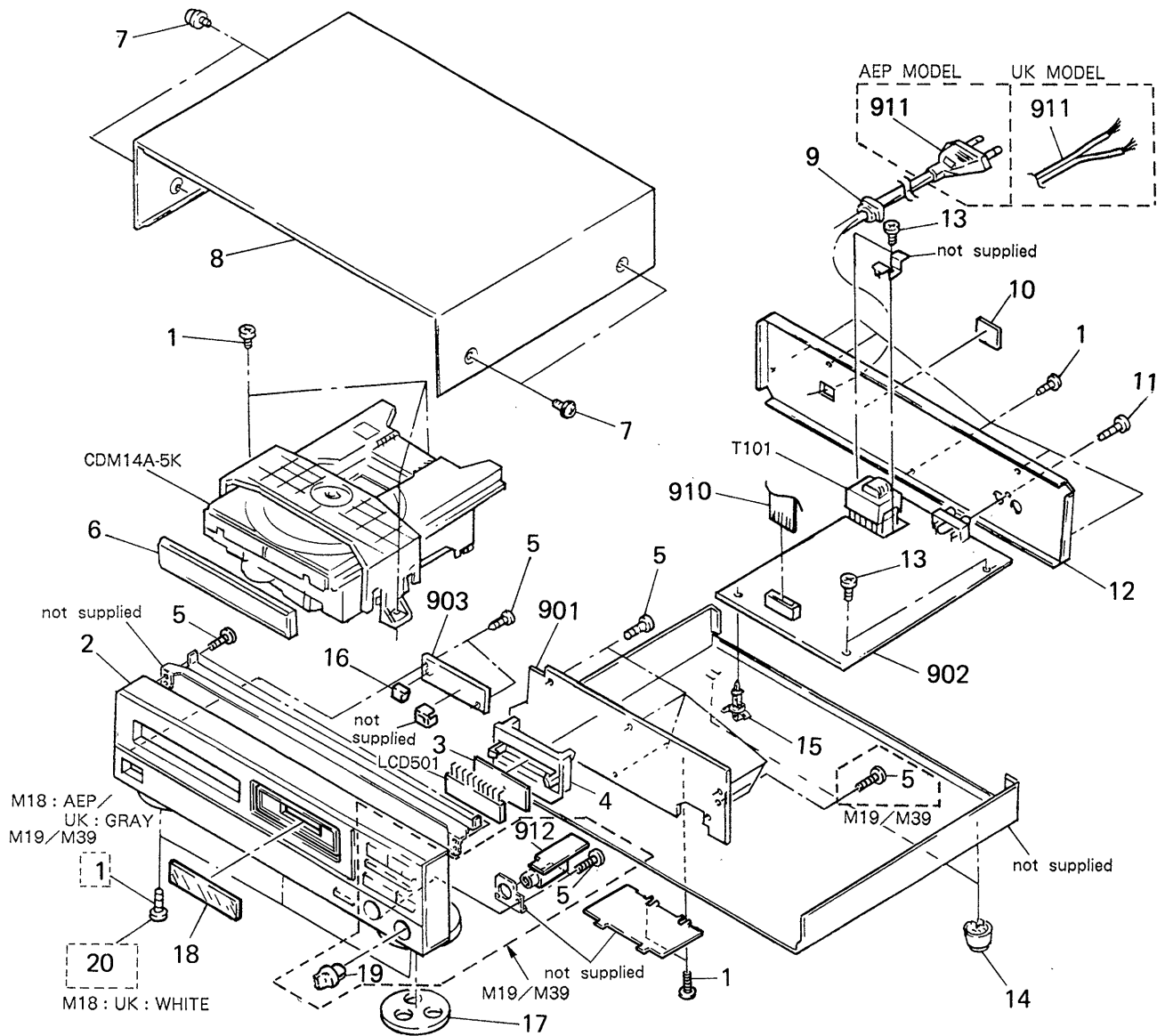
(RED) ...KNOB, BALANCE (WHITE)

Cabinet's Color

Parts Color

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

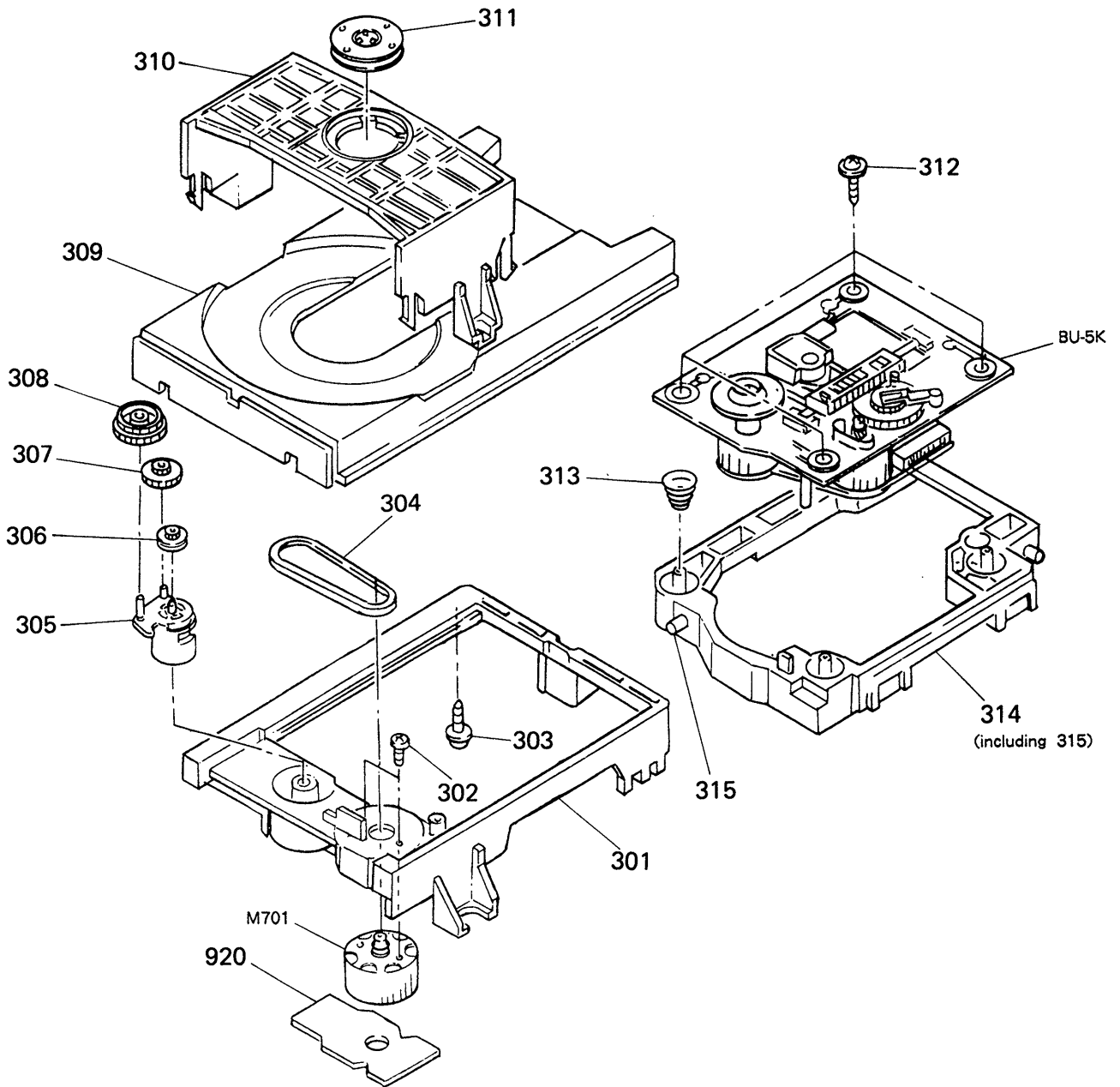
(1) CHASSIS SECTION



No.	Part No.	Description	Remarks
1	7-685-872-09	SCREW +BVTT 3X8 (S)	
2	X-4917-582-2	(M18:AEP,UK)...PANEL ASSY, FRONT(GRAY)	
	X-4917-584-1	(M39).....PANEL ASSY, FRONT	
	X-4917-585-1	(M19:AEP,UK)...PANEL ASSY, FRONT(BLACK)	
	X-4917-586-1	(M19:AEP).....PANEL ASSY, FRONT(GRAY)	
	X-4917-587-1	(M18:UK).....PANEL ASSY, FRONT(WHITE)	
3	*4-933-136-01	ILLUMINATOR	
4	*4-933-121-01	HOLDER (LCD)	
5	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
6	4-927-339-02	(M39).....PANEL, LOADING	
	4-927-339-12	(M19:AEP,UK)...PANEL, LOADING(BLACK)	
	4-927-339-21	(M18:AEP,UK)...PANEL, LOADING(GRAY)	
	4-927-339-31	(M19:AEP).....PANEL, LOADING(GRAY)	
	4-927-339-41	(M18:UK).....PANEL, LOADING(WHITE)	
7	3-704-366-31	(M18:AEP,UK/M19/M39)...SCREW (CASE)	
		(M3X6)(GRAY)	
	3-704-366-41	(M18:UK)...SCREW (CASE)(M3X6)(WHITE)	
8	4-919-376-51	(M19:AEP,UK/M39).....CASE (BLACK)	
	4-919-376-61	(M18:AEP,UK/M19:AEP)...CASE (GRAY)	
	4-919-376-71	(M18:UK).....CASE (WHITE)	
9	*3-703-244-00	BUSHING (2104), CORD	
10	*4-927-352-01	(M18:AEP)...LABEL, MODEL NUMBER(AE,ALSACE)	
11	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	

No.	Part No.	Description	Remarks
12	*4-927-346-01	PANEL, BACK	
14	4-933-601-01	FOOT	
15	*4-924-098-31	HOLDER, PC BOARD	
16	4-927-341-01	(M18:AEP,UK/M19/M39)	
		...BUTTON (POWER)(GRAY)	
	4-927-341-11	(M18:UK).....BUTTON (POWER)(WHITE)	
17	4-921-906-01	FELT	
18	4-927-351-01	(M18:AEP,UK/M19/M39)	
		...PLATE, INDICATION (GRAY)	
	4-927-351-11	(M18:UK)...PLATE, INDICATION (WHITE)	
19	4-933-116-11	(M19/M39)...KNOB (C,TYPE), LOV	
20	7-685-872-01	(M18:UK)...SCREW +BVTT 3X8 (S)(WHITE)	
901	*1-632-162-11	PC BOARD, DISPLAY	
902	*A-4617-202-A	(M19/M39)...MOUNTED PCB, MAIN	
	*A-4617-233-A	(M18).....MOUNTED PCB, MAIN	
903	*1-632-163-11	PC BOARD, POWER SW	
910	1-575-043-11	WIRE, PARALLEL (26 CORE)	
911	A.1-574-127-11	(M18:AEP/M19:AEP/M39)...CORD, POWER	
	A.1-574-390-11	(M18:UK/M19:UK).....CORD, POWER	
912	*1-632-164-11	(M19/M39)...PC BOARD, HEADPHONE	
LCD501	1-808-794-41	DISPLAY PANEL, LIQUID CRYSTAL	
T101	A.1-449-823-11	TRANSFORMER, POWER	

(2) CD MECHANISM SECTION (CDM14A-5K)



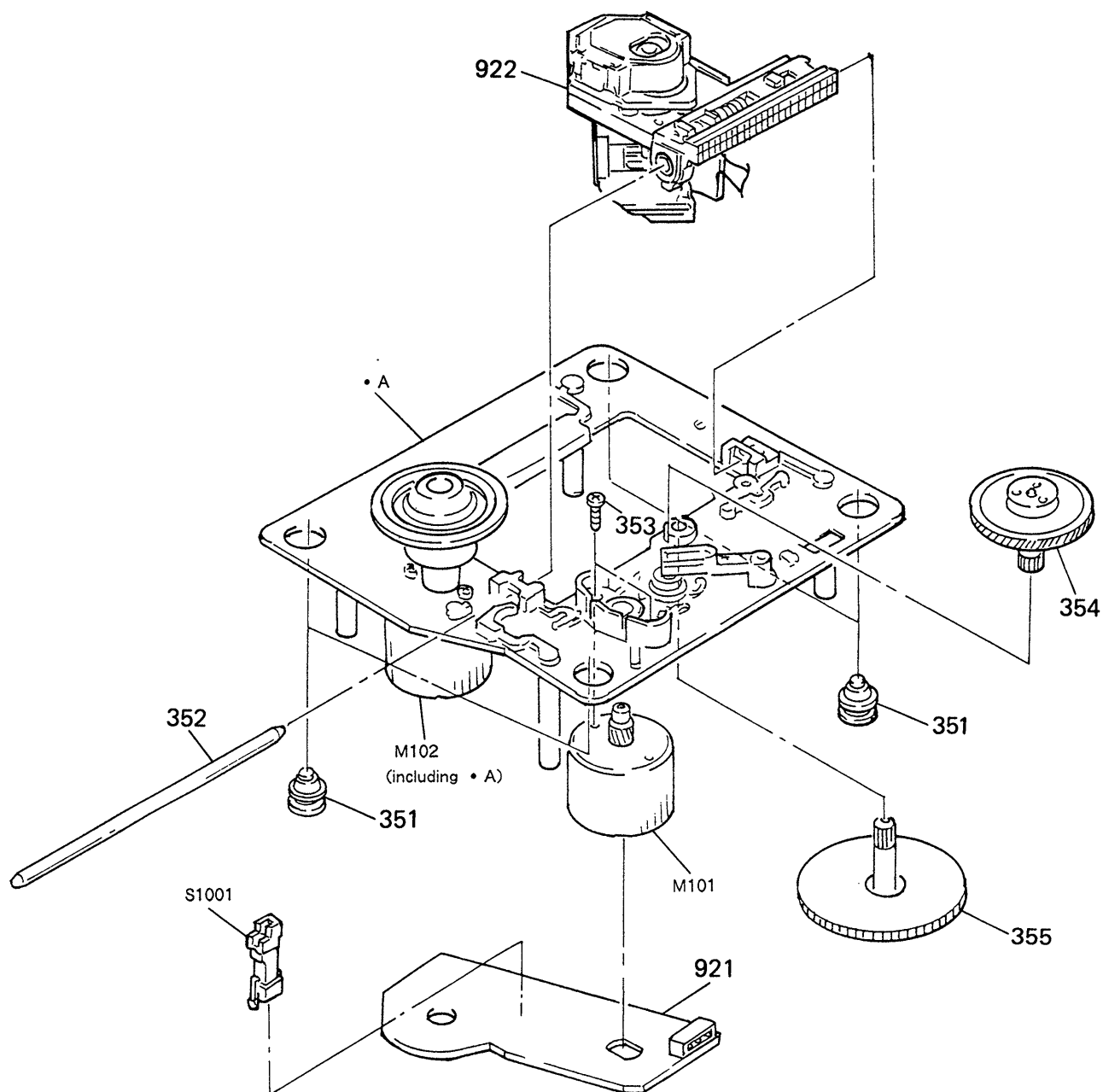
No.	Part No.	Description
301	4-933-111-01	CHASSIS (MD)
302	7-621-775-10	SCREW +B 2.6X4
303	*4-917-583-21	BRACKET, YOKE
304	4-927-649-01	BELT
305	4-933-109-01	CAM
306	4-927-651-01	PULLEY (S)
307	4-927-628-01	GEAR (C)
308	4-933-107-01	GEAR (PL)
309	4-933-112-01	TABLE, DISK

Remarks

No.	Part No.	Description
310	4-933-110-01	HOLDER (MG)
311	A-4675-347-A	MG ASSY
312	4-933-134-01	SCREW (+PTPH M2.6X6)
313	4-917-541-01	SPRING (B)
314	4-933-129-01	HOLDER (BU)
315	4-933-108-01	SHAFT (CAM)
920	*1-632-169-11	PC BOARD, LOADING MOTOR
M701	A-4608-362-A	MOTOR (L) ASSY

Remarks

(3) OPTICAL PICK-UP BLOCK (BU-5K)



Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
351	4-933-126-01	INSULATOR (A)		921	*1-632-460-11	PC BOARD, SL/SP MOTOR	
352	4-917-565-01	SHAFT, SLED		922	 8-848-062-01	DEVICE, OPTICAL KSS-150A (H)	
353	7-621-255-15	SCREW +P 2X3		M101	X-4917-504-1	ASSY, MOTOR (SLED)	
354	4-917-567-01	GEAR (M)		M102	X-4917-523-1	ASSY, MOTOR (SPINDLE)	
355	4-917-564-01	GEAR (P), FLATNESS		S1001	1-570-822-11	SWITCH, LEAF (LIMIT IN SW)	

SECTION 6

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:MF: μ F, PF: μ F.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORSIn each case, U: μ , for example:
 UA...: μ A..., UPA...: μ PA...,
 UPC...: μ PC, UPD...: μ PD...

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
901	*1-632-162-11	PC BOARD, DISPLAY	C210	1-162-282-31	CERAMIC 100PF 10% 50V
902	*A-4617-202-A	(M19/M39)...MOUNTED PCB, MAIN	C211	1-126-233-11	ELECT 22MF 20% 25V
	*A-4617-233-A	(M18).....MOUNTED PCB, MAIN	C212	1-126-233-11	ELECT 22MF 20% 25V
903	*1-632-163-11	PC BOARD, POWER SW	C213	1-126-233-11	ELECT 22MF 20% 25V
910	1-575-043-11	WIRE, PARALLEL (26 CORE)	C214	1-124-499-11	ELECT 1MF 20% 50V
911	Δ 1-574-127-11	(M18:AEP/M19:AEP/M39)...CORD, POWER	C215	1-164-159-11	CERAMIC 0.1MF 50V
	Δ 1-574-390-11	(M18:UK/M19:UK).....CORD, POWER	C216	1-164-159-11	CERAMIC 0.1MF 50V
912	*1-632-164-11	(M19/M39)...PC BOARD, HEADPHONE	C217	1-161-375-00	CERAMIC 0.0022MF 20% 16V
920	*1-632-169-11	PC BOARD, LOADING MOTOR	C218	1-162-291-31	CERAMIC 560PF 10% 50V
922	Δ 8-848-062-01	DEVICE, OPTICAL KSS-150A (H)	C219	1-123-875-11	ELECT 10MF 20% 50V
C001	1-126-017-11	ELECT 6800MF 20% 16V	C220	1-136-165-00	FILM 0.1MF 5% 50V
C002	1-124-898-11	ELECT 4700MF 20% 16V	C221	1-164-159-11	CERAMIC 0.1MF 50V
C003	1-124-927-11	ELECT 4.7MF 20% 50V	C222	1-164-159-11	CERAMIC 0.1MF 50V
C004	1-124-927-11	ELECT 4.7MF 20% 50V	C225	1-126-101-11	ELECT 100MF 20% 16V
C005	1-123-875-11	ELECT 10MF 20% 50V	C226	1-126-101-11	ELECT 100MF 20% 16V
C006	1-164-159-11	CERAMIC 0.1MF 50V	C229	1-164-159-11	CERAMIC 0.1MF 50V
C007	1-124-472-11	ELECT 470MF 20% 10V	C230	1-164-159-11	CERAMIC 0.1MF 50V
C008	1-124-472-11	ELECT 470MF 20% 10V	C231	1-162-282-31	CERAMIC 100PF 10% 50V
C009	1-124-478-11	ELECT 100MF 20% 25V	C301	1-124-902-00	ELECT 0.47MF 20% 50V
C013	1-164-159-11	CERAMIC 0.1MF 50V	C302	1-106-379-12	MYLAR 0.033MF 5% 100V
C014	1-124-604-00	ELECT 330MF 20% 10V	C303	1-161-379-00	CERAMIC 0.01MF 20% 16V
C101	1-106-351-00	MYLAR 0.0022MF 5% 50V	C304	1-124-902-00	ELECT 0.47MF 20% 50V
C103	1-124-477-11	ELECT 47MF 20% 16V	C305	1-164-159-11	CERAMIC 0.1MF 50V
C104	1-162-294-31	CERAMIC 0.001MF 10% 50V	C306	1-164-159-11	CERAMIC 0.1MF 50V
C105	1-162-199-31	CERAMIC 10PF 5% 50V	C307	1-124-478-11	ELECT 100MF 20% 25V
C106	1-162-199-31	CERAMIC 10PF 5% 50V	C308	1-124-478-11	ELECT 100MF 20% 25V
C107	1-136-173-00	FILM 0.47MF 5% 50V	C309	1-136-173-00	FILM 0.47MF 5% 50V
C108	1-161-375-00	CERAMIC 0.0022MF 20% 16V	C310	1-164-159-11	CERAMIC 0.1MF 50V
C109	1-106-367-00	MYLAR 0.01MF 5% 100V	C321	1-162-202-31	CERAMIC 13PF 5% 50V
C110	1-106-367-00	MYLAR 0.01MF 5% 100V	C322	1-162-203-31	CERAMIC 15PF 5% 50V
C111	1-124-478-11	ELECT 100MF 20% 25V	C324	1-164-159-11	CERAMIC 0.1MF 50V
C112	1-126-233-11	ELECT 22MF 20% 25V	C325	1-162-283-31	CERAMIC 120PF 10% 50V
C113	1-106-379-12	MYLAR 0.033MF 5% 100V	C401	1-162-294-31	CERAMIC 0.001MF 10% 50V
C114	1-161-377-00	CERAMIC 0.0047MF 20% 16V	C402	1-124-478-11	ELECT 100MF 20% 25V
C115	1-126-233-11	ELECT 22MF 20% 25V	C404	1-164-159-11	CERAMIC 0.1MF 50V
C201	1-136-165-00	FILM 0.1MF 5% 50V	C405	1-124-472-11	ELECT 470MF 20% 10V
C202	1-106-379-12	MYLAR 0.033MF 5% 100V	C406	1-162-294-31	CERAMIC 0.001MF 10% 50V
C203	1-123-875-11	ELECT 10MF 20% 50V	C451	1-162-294-31	CERAMIC 0.001MF 10% 50V
C204	1-136-165-00	FILM 0.1MF 5% 50V	C452	1-124-478-11	ELECT 100MF 20% 25V
C205	1-161-379-00	CERAMIC 0.01MF 20% 16V	C454	1-164-159-11	CERAMIC 0.1MF 50V
C206	1-161-377-00	CERAMIC 0.0047MF 20% 16V	C456	1-162-294-31	CERAMIC 0.001MF 10% 50V
C207	1-124-927-11	ELECT 4.7MF 20% 50V	C501	1-164-159-11	CERAMIC 0.1MF 50V
C208	1-124-477-11	ELECT 47MF 20% 16V	C502	1-164-159-11	CERAMIC 0.1MF 50V
C209	1-162-294-31	CERAMIC 0.001MF 10% 50V	C503	1-164-159-11	CERAMIC 0.1MF 50V
			C504	1-126-177-11	ELECT 100MF 20% 6.3V

Ref.No.	Part No.	Description
C731	1-164-159-11	(M19/M39)...CERAMIC 0.1MF 50V
C732	1-164-159-11	(M19/M39)...CERAMIC 0.1MF 50V
CN505	*1-568-944-11	PIN, CONNECTOR 6P
CNP001*	1-568-955-11	PIN, CONNECTOR 6P
CNP101*	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P
CNP102*	1-564-706-31	PIN, CONNECTOR (SMALL TYPE) 4P
CNP103*	1-564-706-31	PIN, CONNECTOR (SMALL TYPE) 4P
CNP201*	1-568-953-11	PIN, CONNECTOR 4P
CNP202*	1-568-954-11	PIN, CONNECTOR 5P
CNP301*	1-568-931-11	SOCKET, CONNECTOR 26P
CNP501*	1-568-931-11	SOCKET, CONNECTOR 26P
CNP731*	1-568-940-11	(M19/M39)...PIN, CONNECTOR 2P
D001	8-719-950-59	DIODE MPG06D-6052
D002	8-719-950-59	DIODE MPG06D-6052
D003	8-719-950-59	DIODE MPG06D-6052
D004	8-719-950-59	DIODE MPG06D-6052
D005	8-719-950-59	DIODE MPG06D-6052
D007	8-719-107-94	DIODE 1SS202-1
D008	8-719-301-51	DIODE S-15H
D401	8-719-107-94	DIODE 1SS202-1
D402	8-719-107-94	DIODE 1SS202-1
D501	8-719-312-63	LED SEL3B10D
D502	8-719-312-63	LED SEL3B10D
D503	8-719-312-63	LED SEL3B10D
D504	8-719-312-63	LED SEL3B10D
D505	8-719-312-63	LED SEL3B10D
D506	8-719-312-63	LED SEL3B10D
D507	8-719-312-63	LED SEL3B10D
D508	8-719-312-63	LED SEL3B10D
D509	8-719-312-63	LED SEL3B10D
D510	8-719-312-63	LED SEL3B10D
IC001	8-759-631-40	IC M5294P
IC101	8-752-034-00	IC CXA1081S
IC201	8-752-032-30	IC CXA1082BS
IC202	8-759-805-18	IC LA6520
IC203	8-759-805-18	IC LA6520
IC301	8-752-334-00	IC CXD1125Q
IC302	8-759-994-30	IC MK6116-15
IC303	8-759-990-13	IC TDA1543A-S1
IC304	8-752-334-06	IC CXD2551P
IC401	8-759-995-08	IC MC4558
IC402	8-759-981-85	(M19/M39)...IC RC4556D
IC501	8-759-149-81	IC UPD75308GF-536-3B9
IC721	8-749-920-83	IC GP1U52XB
J401	1-566-921-11	JACK, PIN 2P (LINE OUT)
J731	1-568-519-51	(M19/M39)...JACK, LARGE TYPE (PHONE'S)
L401	1-410-509-11	INDUCTOR 10UH
LCD501	1-808-794-41	DISPLAY PANEL, LIQUID CRYSTAL
M101	X-4917-504-1	ASSY, MOTOR (SLED)
M102	X-4917-523-1	ASSY, MOTOR (SPINDLE)
M701	A-4608-362-A	MOTOR (L) ASSY
Q001	8-729-920-91	TRANSISTOR 2SB1187-F
Q101	8-729-116-57	TRANSISTOR 2SB1068K
Q201	8-729-900-80	TRANSISTOR DTC114ES

Ref.No.	Part No.	Description
Q202	8-729-900-89	TRANSISTOR DTC144ES
Q401	8-729-806-10	TRANSISTOR 2SA1348
Q402	8-729-900-89	TRANSISTOR DTC144ES
Q403	8-729-900-74	TRANSISTOR DTC143TS
Q404	8-729-900-74	TRANSISTOR DTC143TS
Q405	8-729-281-52	(M19/M39)...TRANSISTOR 2SC1815Y
Q453	8-729-900-74	TRANSISTOR DTC143TS
Q454	8-729-900-74	TRANSISTOR DTC143TS
Q455	8-729-281-52	(M19/M39)...TRANSISTOR 2SC1815Y
R001	1-249-417-11	CARBON 1K 5% 1/4W
R005	1-249-421-11	CARBON 2.2K 5% 1/4W
R101	1-247-864-11	CARBON 24K 5% 1/4W
R104	1-249-397-11	CARBON 22 5% 1/4W
R105	1-247-806-11	CARBON 91 5% 1/4W
R106	1-249-433-11	CARBON 22K 5% 1/4W
R108	1-249-432-11	CARBON 18K 5% 1/4W
R109	1-249-432-11	CARBON 18K 5% 1/4W
R110	1-249-425-11	CARBON 4.7K 5% 1/4W
R111	1-249-425-11	CARBON 4.7K 5% 1/4W
R112	1-249-417-11	CARBON 1K 5% 1/4W
R201	1-247-882-11	CARBON 130K 5% 1/4W
R202	1-249-432-11	CARBON 18K 5% 1/4W
R203	1-249-432-11	CARBON 18K 5% 1/4W
R204	1-249-439-11	CARBON 68K 5% 1/4W
R205	1-247-889-00	CARBON 270K 5% 1/4W
R206	1-249-435-11	CARBON 33K 5% 1/4W
R207	1-249-423-11	CARBON 3.3K 5% 1/4W
R208	1-249-425-11	CARBON 4.7K 5% 1/4W
R209	1-247-896-11	CARBON 510K 5% 1/4W
R210	1-249-417-11	CARBON 1K 5% 1/4W
R211	1-249-414-11	CARBON 560 5% 1/4W
R212	1-249-433-11	CARBON 22K 5% 1/4W
R213	1-249-441-11	CARBON 100K 5% 1/4W
R214	1-247-844-11	METAL 3.6K 5% 1/4W
R215	1-249-441-11	CARBON 100K 5% 1/4W
R216	1-249-429-11	CARBON 10K 5% 1/4W
R217	1-247-881-00	CARBON 120K 5% 1/4W
R218	1-249-427-11	CARBON 6.8K 5% 1/4W
R219	1-249-435-11	CARBON 33K 5% 1/4W
R220	1-249-437-11	CARBON 47K 5% 1/4W
R221	1-247-881-00	CARBON 120K 5% 1/4W
R222	1-247-884-11	CARBON 160K 5% 1/4W
R223	1-247-881-00	CARBON 120K 5% 1/4W
R224	1-247-884-11	CARBON 160K 5% 1/4W
R225	1-249-429-11	CARBON 10K 5% 1/4W
R226	1-249-393-11	CARBON 10 5% 1/4W
R227	1-249-393-11	CARBON 10 5% 1/4W
R230	1-249-393-11	CARBON 10 5% 1/4W
R231	1-249-393-11	CARBON 10 5% 1/4W
R301	1-247-903-00	CARBON 1M 5% 1/4W
R302	1-249-433-11	CARBON 22K 5% 1/4W
R303	1-249-429-11	CARBON 10K 5% 1/4W
R304	1-249-441-11	CARBON 100K 5% 1/4W
R305	1-249-441-11	CARBON 100K 5% 1/4W
R306	1-249-429-11	CARBON 10K 5% 1/4W
R307	1-249-441-11	METAL 100K 5% 1/4W
R308	1-249-441-11	METAL 100K 5% 1/4W

Ref.No.	Part No.	Description				
R310	1-249-417-11	CARBON	1K	5%	1/4W	
R311	1-249-417-11	CARBON	1K	5%	1/4W	
R312	1-249-417-11	CARBON	1K	5%	1/4W	
R314	1-249-417-11	CARBON	1K	5%	1/4W	
R315	1-249-417-11	CARBON	1K	5%	1/4W	
R316	1-249-417-11	CARBON	1K	5%	1/4W	
R317	1-249-417-11	CARBON	1K	5%	1/4W	
R318	1-249-417-11	CARBON	1K	5%	1/4W	
R320	1-249-411-11	CARBON	330	5%	1/4W	
R321	1-249-411-11	CARBON	330	5%	1/4W	
R322	1-249-411-11	CARBON	330	5%	1/4W	
R323	1-249-411-11	CARBON	330	5%	1/4W	
R401	1-249-421-11	CARBON	2.2K	5%	1/4W	
R402	1-249-422-11	CARBON	2.7K	5%	1/4W	
R403	1-249-109-11	CARBON	220	5%	1/4W	
R404	1-249-409-11	CARBON	220	5%	1/4W	
R405	1-249-409-11	CARBON	220	5%	1/4W	
R406	1-249-402-11	(M19/M39)...CARBON	56	5%	1/4W	
R407	1-249-425-11	(M19/M39)...CARBON	4.7K	5%	1/4W	
R408	1-249-437-11	CARBON	47K	5%	1/4W	
R409	1-249-441-11	CARBON	100K	5%	1/4W	
R410	1-249-441-11	CARBON	100K	5%	1/4W	
R411	1-249-393-11	CARBON	10	5%	1/4W	
R452	1-249-422-11	CARBON	2.7K	5%	1/4W	
R453	1-249-409-11	CARBON	220	5%	1/4W	
R454	1-249-409-11	CARBON	220	5%	1/4W	
R455	1-249-409-11	CARBON	220	5%	1/4W	
R456	1-249-402-11	(M19/M39)...CARBON	56	5%	1/4W	
R457	1-249-425-11	(M19/M39)...CARBON	4.7K	5%	1/4W	
R460	1-249-441-11	CARBON	100K	5%	1/4W	
R501	1-249-401-11	CARBON	47	5%	1/4W	
R502	1-249-401-11	CARBON	47	5%	1/4W	
R503	1-249-401-11	CARBON	47	5%	1/4W	
R504	1-249-401-11	CARBON	47	5%	1/4W	
R505	1-249-433-11	CARBON	22K	5%	1/4W	
R506	1-249-441-11	CARBON	100K	5%	1/4W	
R507	1-249-441-11	CARBON	100K	5%	1/4W	
R508	1-249-433-11	CARBON	22K	5%	1/4W	
R509	1-249-433-11	CARBON	22K	5%	1/4W	
R510	1-249-433-11	CARBON	22K	5%	1/4W	
R511	1-249-433-11	CARBON	22K	5%	1/4W	
R512	1-249-433-11	CARBON	22K	5%	1/4W	
R513	1-249-401-11	CARBON	47	5%	1/4W	

Ref.No.	Part No.	Description
RV101	1-228-995-00	RES, ADJ, METAL GLAZE 22K(E-F BALANCE)
RV102	1-228-993-00	RES, ADJ, METAL GLAZE 4.7K(FOCUS BIAS)
RV103	1-228-995-00	RES, ADJ, METAL GLAZE 22K(FOCUS GAIN)
RV104	1-228-995-00	RES, ADJ, METAL GLAZE 22K (TRACKING GAIN)
RV201	1-228-990-00	RES, ADJ, METAL GLAZE 1K (RF PLL)
RV501	1-238-748-11	(M19/M39)...RES, VAR, CARBON 1K/1K (LEVEL)
S721	1-571-305-11	SWITCH, PUSH (1 KEY)(POWER)
SW501	1-554-303-21	SWITCH, KEY BOARD (MUSIC SCAN)
SW502	1-554-303-21	SWITCH, KEY BOARD (TIME)
SW503	1-554-303-21	SWITCH, KEY BOARD (OPEN/CLOSE)
SW504	1-554-303-21	SWITCH, KEY BOARD (□)
SW505	1-554-303-21	SWITCH, KEY BOARD (▶▶)
SW506	1-554-303-21	SWITCH, KEY BOARD (◀◀)
SW507	1-554-303-21	SWITCH, KEY BOARD (▶▶▶▶)
SW508	1-554-303-21	SWITCH, KEY BOARD (PROGRAM)
SW509	1-554-303-21	SWITCH, KEY BOARD (SHUFFLE)
SW510	1-554-303-21	SWITCH, KEY BOARD (REPEAT)
SW511	1-554-303-21	SWITCH, KEY BOARD (FADER)
SW701	1-572-086-11	SWITCH, LEAF (IN SW)
SW702	1-572-086-11	SWITCH, LEAF (OUT SW)
T101	△.1-449-823-11	TRANSFORMER, POWER
TN1	*1-535-771-11	TERMINAL
TN2	*1-535-771-11	TERMINAL
X320	1-577-328-21	VIBRATOR, CRYSTAL (16.9MHz)
X501	1-567-775-11	VIBRATOR, CERAMIC (4.2MHz)

ACCESSORY & PACKING MATERIAL

1-465-282-11	(M39)...REMOTE COMMANDER (RM-D90)
1-559-533-11	CORD, CONNECTION
3-750-716-52	(M19/M39).....MANUAL, INSTRUCTION
3-750-716-62	(M19:AEP/M39)...MANUAL, INSTRUCTION
*4-927-354-01	(M18)...INDIVIDUAL CARTON
*4-927-354-11	(M19)...INDIVIDUAL CARTON
*4-927-354-21	(M39)...INDIVIDUAL CARTON
*4-927-355-01	CUSHION

Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

CDP-M18/M19/M39

SONY SERVICE MANUAL

AEP Model
UK Model

CORRECTION-1

Correct your service manual (SUPPLEMENT-1) as shown below.

 : indicates corrected portion.

Page	INCORRECT	CORRECT
2	E-F Balance Check Procedure : 1. Connect test point TP (ADJ) to ground with lead wire.	E-F Balance Check Procedure : 1. Connect test point TP (ADJ) to ground and <u>TP (TES)</u> to TP (VC) with lead wire. 

CDP-M18/M19/M39

SONY[®] SERVICE MANUAL

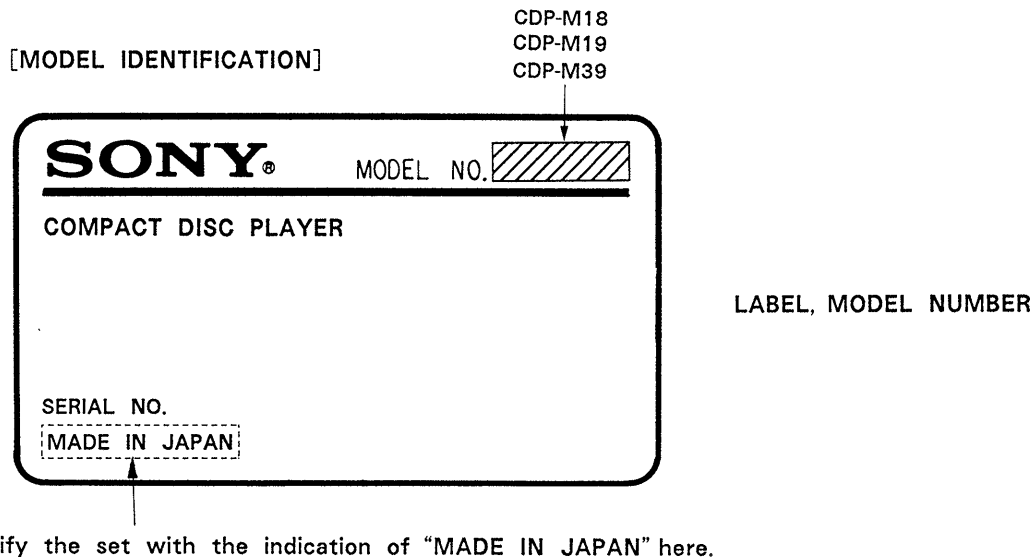
AEP Model
UK Model

SUPPLEMENT-1

File this Supplement with the Service Manual.

This SUPPLEMENT-1 is for the model made in JAPAN.

Refer to the CDP-M18/M19/M39 service manual for related information not contained in this SUPPLEMENT-1.



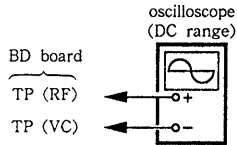
SECTION 1

ELECTRICAL ADJUSTMENTS

1. Perform adjustments in the order given.
2. Use YEDS-18 disc (3-702-101-1) unless otherwise indicated.
3. Use the oscilloscope with more than 10 MΩ impedance.

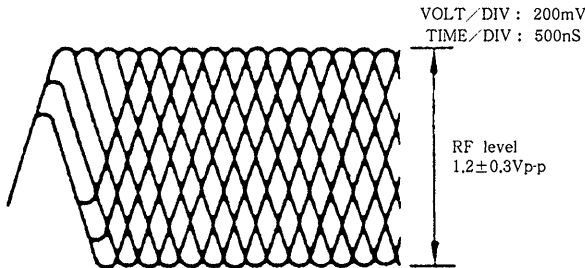
RF Level Check

Procedure :



1. Connect oscilloscope to test point TP (RF) and TP (VC) on BD board.
2. Confirm that RF level and eye pattern is optimum. Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the wave form.

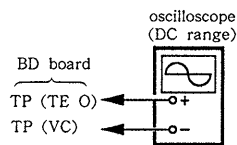
RF Signal Reference Waveform (eye pattern)



REFERENCE

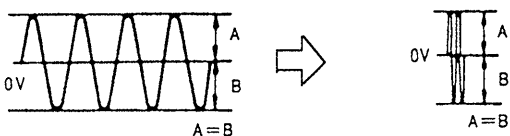
E-F Balance Check

Procedure :



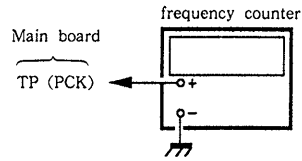
1. Connect test point TP (ADJ) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TE O) and TP (VC) on BD board.
3. Turn POWER switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V.
6. After check, remove the lead wire connected in step 1.

Note : Take sweep time as long as possible to obtain best waveform.



RF PLL Free-run Frequency Check

Procedure :



1. Turn POWER switch on.
2. Put disc (YEDS-18) in and playback.
3. Confirm that reading on frequency counter is 4,3218MHz.

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

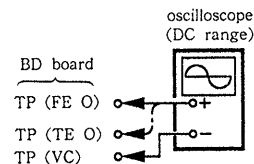
Symptoms	Gain	Focus	Tracking
• The time until music starts becomes longer for STOP → ▷PLAY or automatic selection. (◀▶ buttons pressed.) (Normally takes about 1 seconds.)		low	low or high
• Music does not start and disc continues to rotate for STOP → ▷PLAY or automatic selection. (◀▶ buttons pressed.)		—	low
• Sound is interrupted during PLAY. Or time counter display stops progressing.		—	low
• More noise during 2-axis device operation.		high	high

The following is a simple adjustment method.

—Primary Adjustment—

Note : Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment.

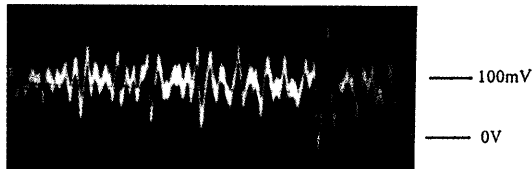
If the positions after the primary adjustment are only a little different, return the controls to the original position.



Procedure :

1. Keep the set horizontal.
(If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2. Insert disc (YEDS-18) and press $\triangleright$ PLAY button.
3. Connect oscilloscope to TP (FEO) and TP (VC) on BD board.
4. Adjustment RV102 on digital board so that the waveform is as shown in the figure below. (focus gain adjustment)

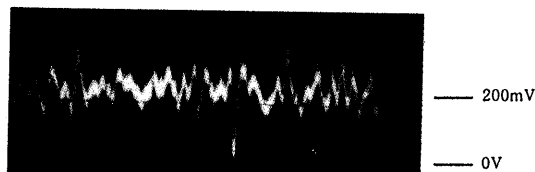
VOLT/DIV : 100mV
TIME/DIV : 2mS



- Incorrect Examples (DC level changes more than on adjusted waveform)

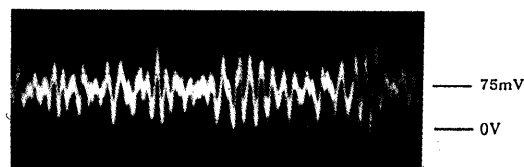
low focus gain

VOLT/DIV : 100mV
TIME/DIV : 2mS



high focus gain

VOLT/DIV : 100mV
TIME/DIV : 2mS



5. Connect oscilloscope to TP (TEO) and TP (VC) on BD board.
6. Adjust RV101 on digital board so that the waveform is as shown the figure below. (tracking gain adjustment)

VOLT/DIV : 1V
TIME/DIV : 2mS



- Incorrect Examples (fundamental wave appears)

low tracking gain

VOLT/DIV : 1V
TIME/DIV : 2mS

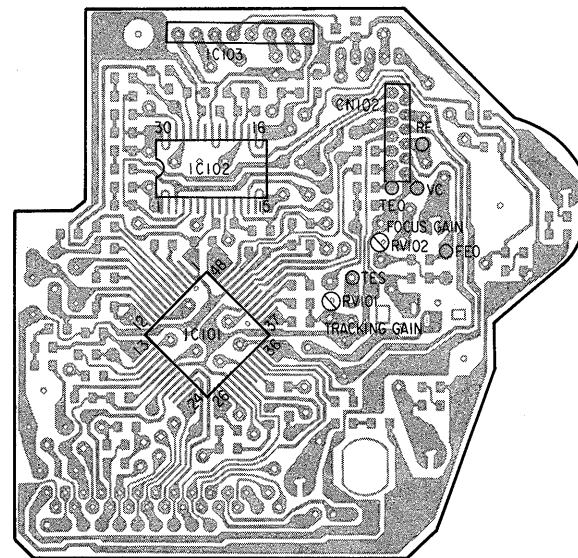


high tracking gain
(high fundamental wave)
than for low gain

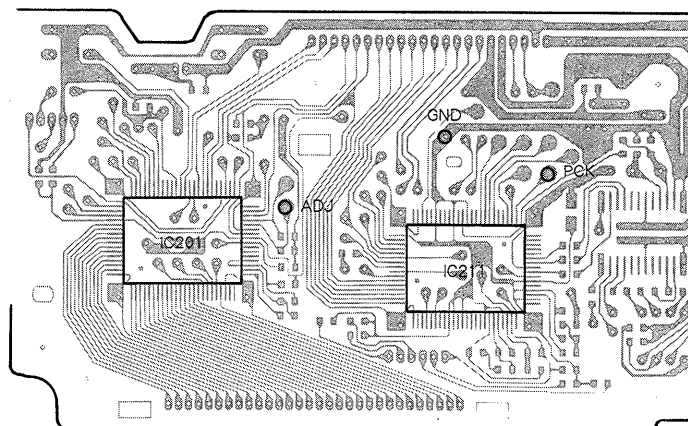
VOLT/DIV : 1V
TIME/DIV : 2mS



Adjustment Location :
[BD board]

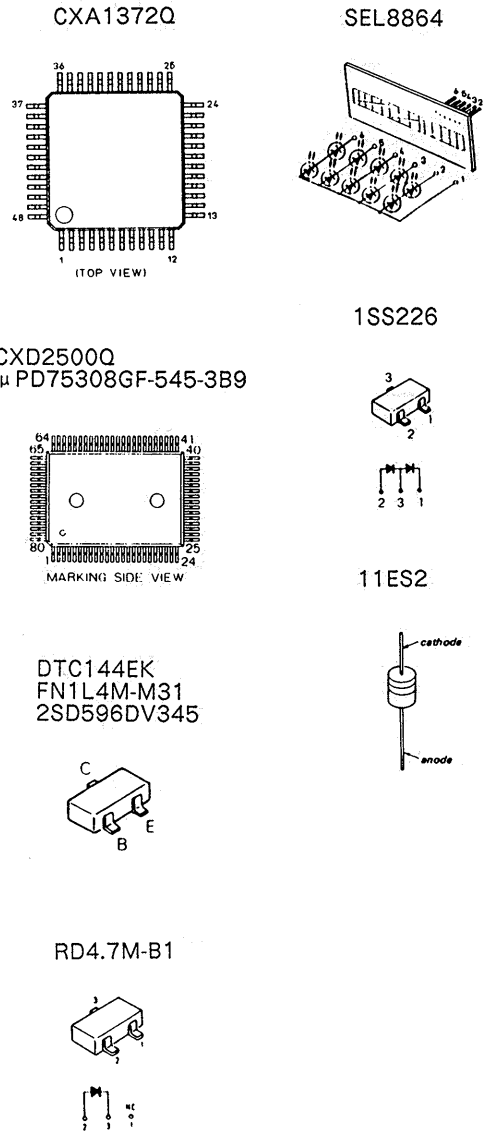


[Main board]



SECTION 2
DIAGRAMS

● SEMICONDUCTOR
LEAD LAYOUTS



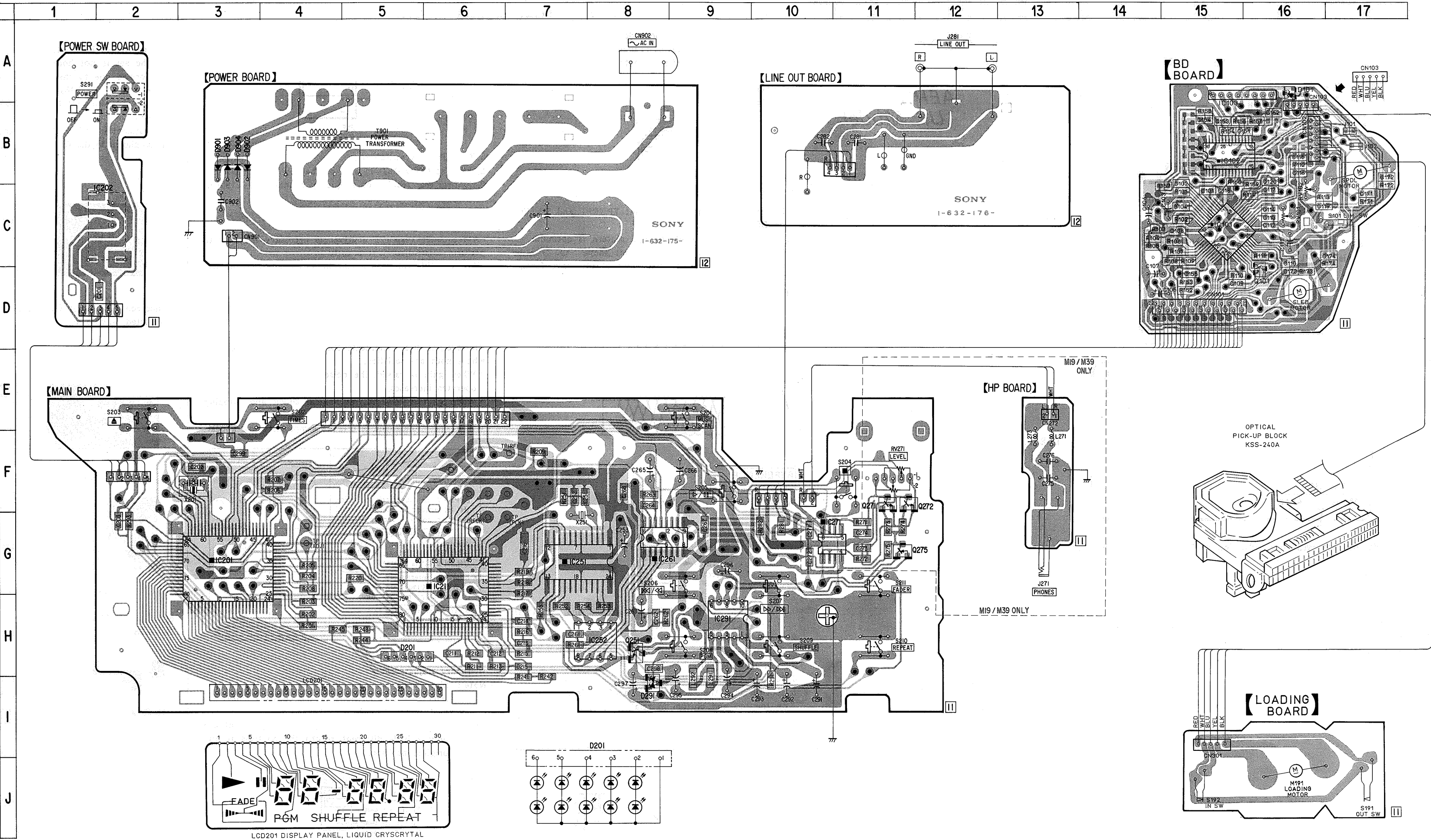
● SEMICONDUCTOR
LOCATION

Ref. No.	Location
IC101	C-15
IC102	B-15
IC103	A-15
IC201	G-3
IC202	C-2
IC211	G-6
IC251	C-7
IC252	H-8
IC261	G-8
IC271	G-10
IC291	H-9
Q101	D-16
Q251	H-8
Q271	F-11
Q272	F-11
Q275	G-11
D101	A-16
D201	H-5
D291	H-9
D901	B-3
D902	B-3
D903	B-3
D904	B-3

Note :

- : parts mounted on the conductor side.
- : Through hole.
- ▨ : Pattern on the side which is seen.
- ▩ : Pattern of the rear side.

2-1. PRINTED WIRING BOARDS



Note :

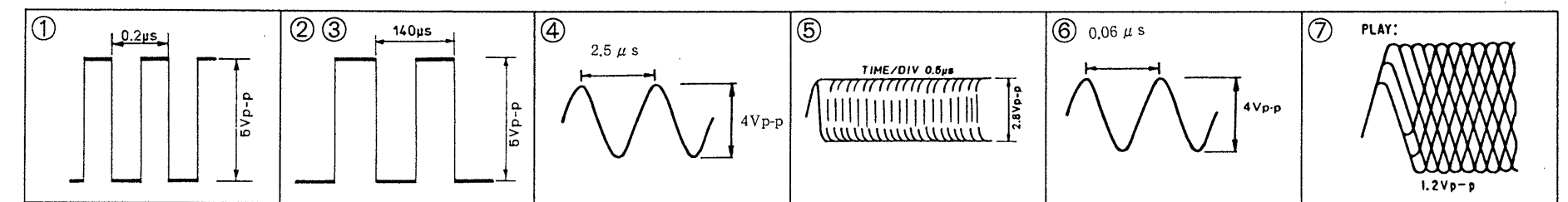
- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}W$ or less unless otherwise specified.
- Δ : internal component.

Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

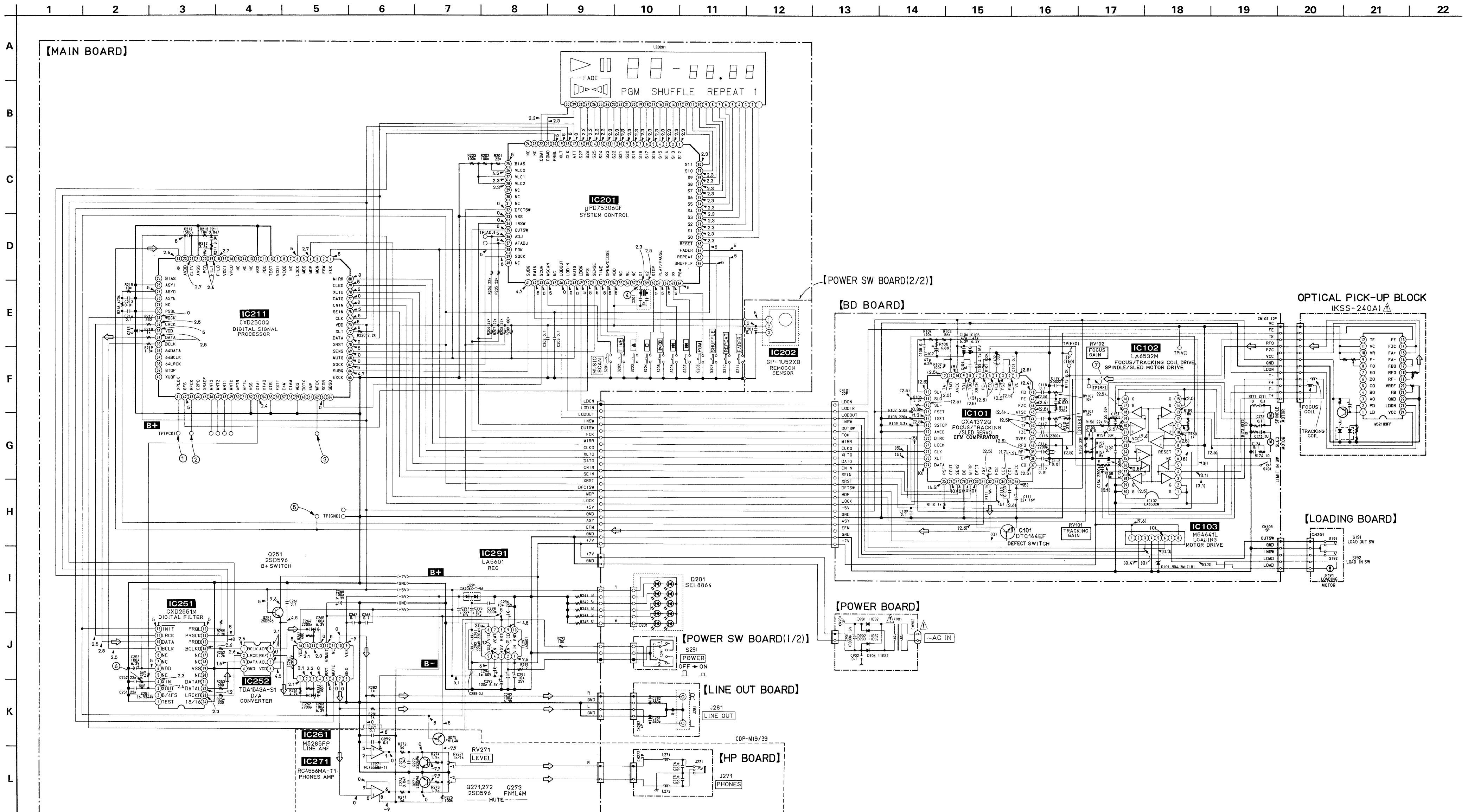
- **B+** : B+ Line
- **B-** : B- Line
- $\square$: adjustment for repair.

- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark : PLAY
- () : STOP
- Voltages are taken with a VOM (input impedance $10M\Omega$). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- $\Rightarrow$: CD

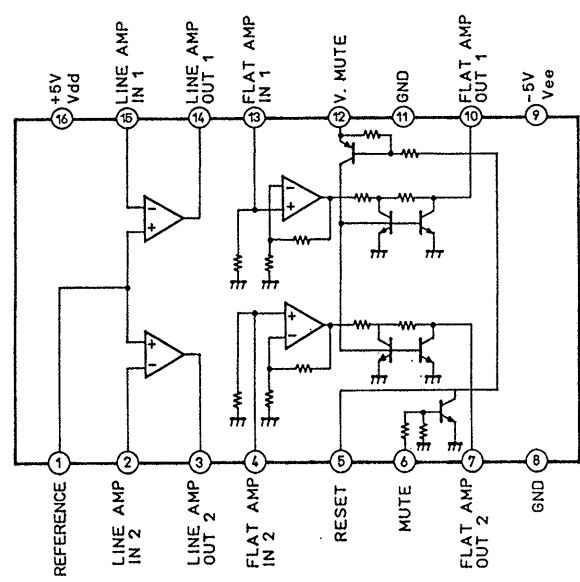
● WAVEFORM



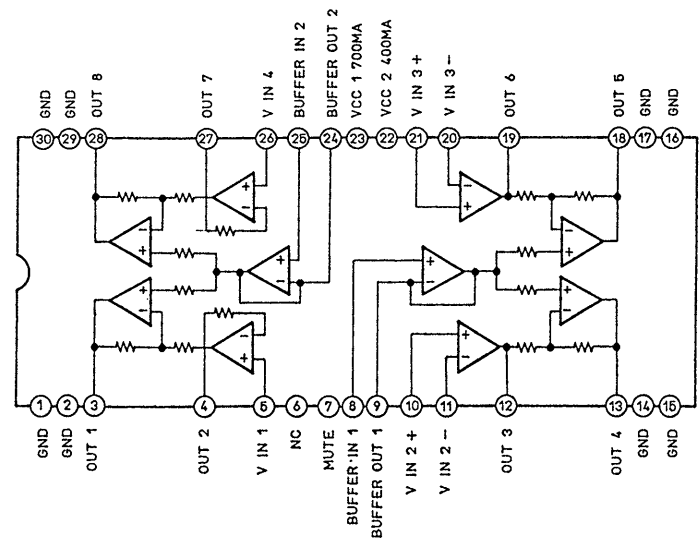
2-2. SCHEMATIC DIAGRAM



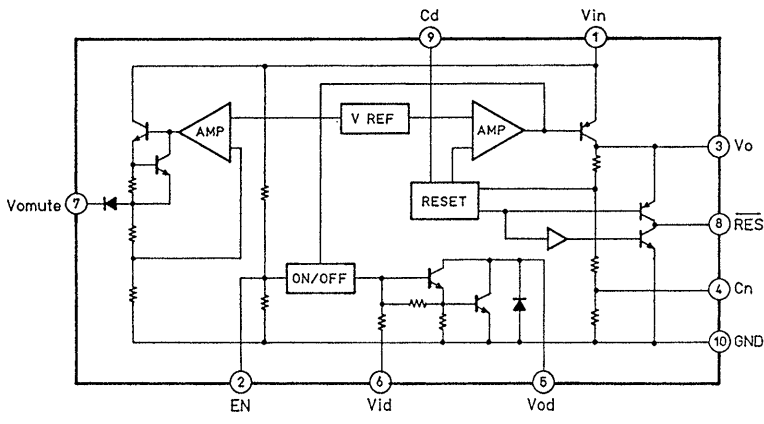
2-4. IC BLOCK DIAGRAM
M5285FP



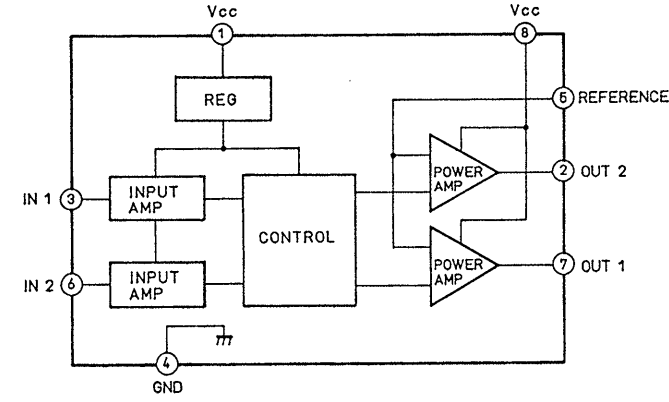
LA6532



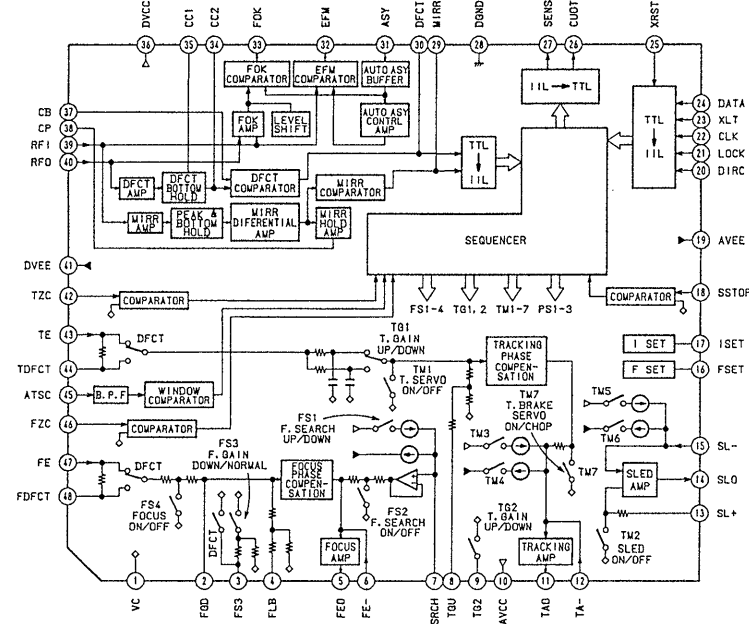
LA5601



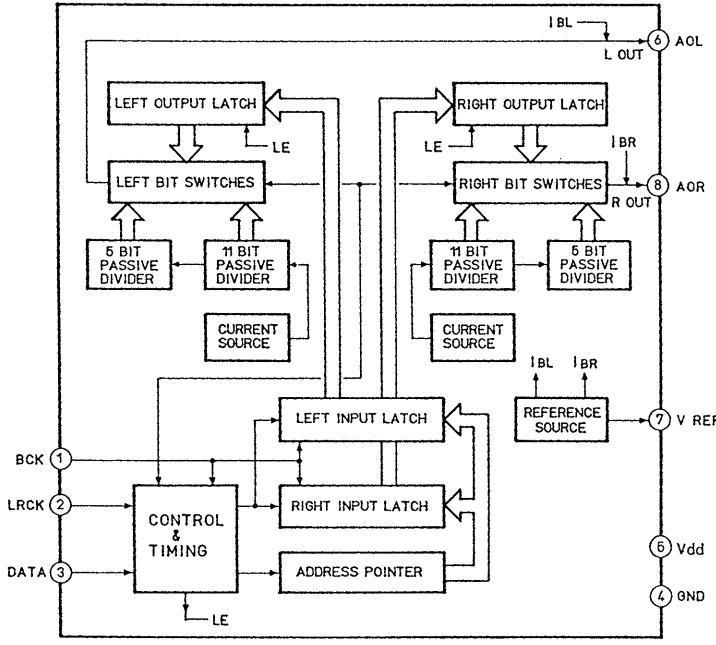
M54641L



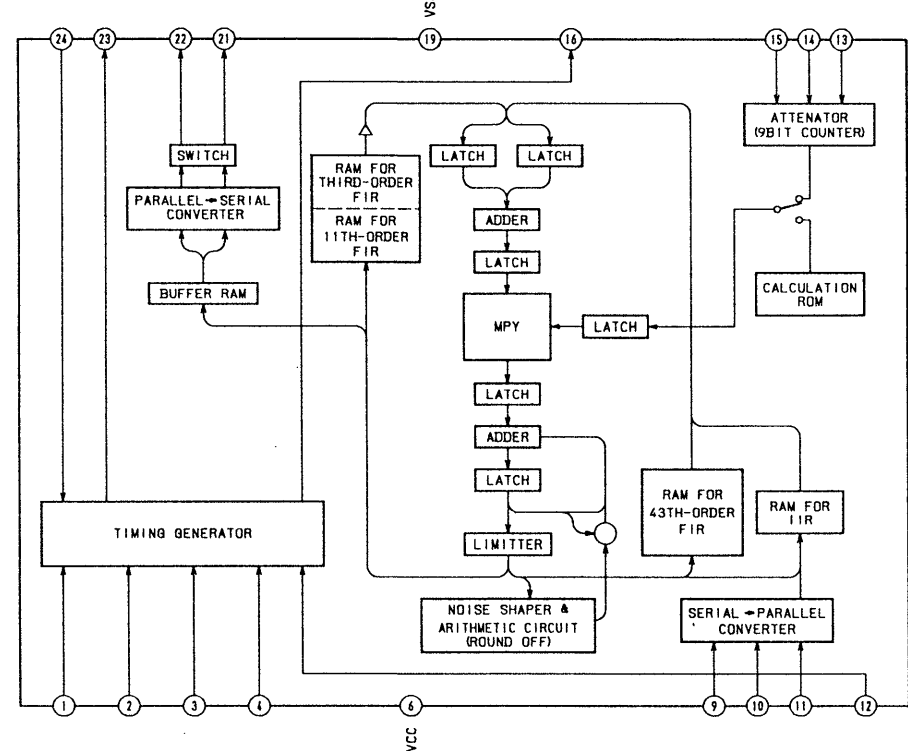
CXA1372Q



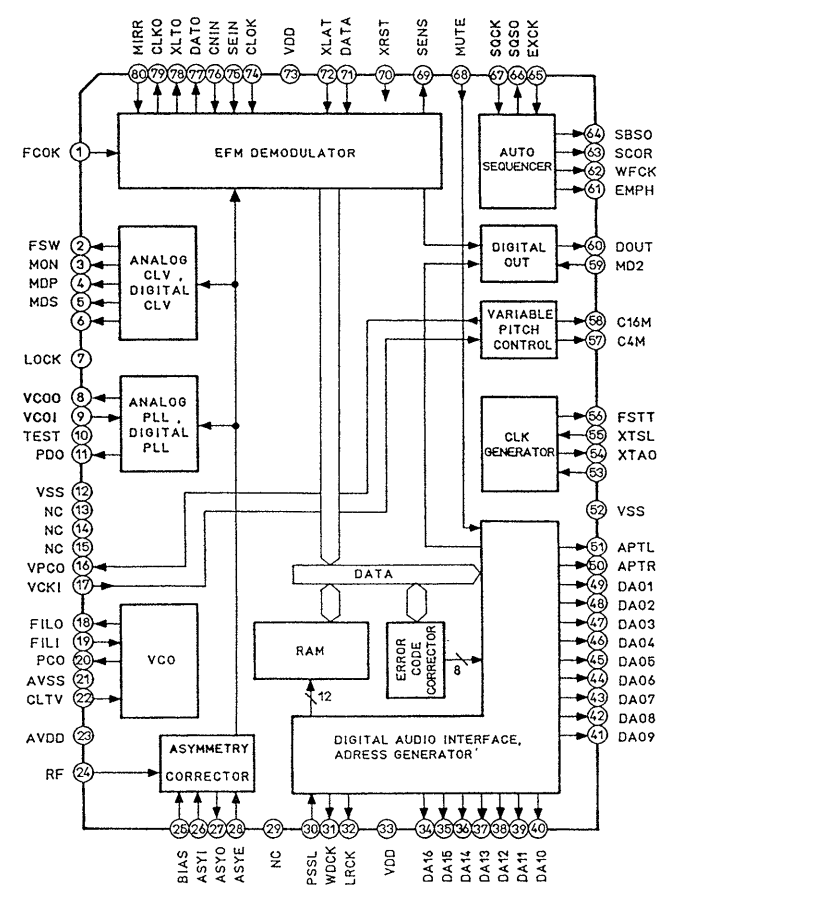
TDA1543



CXD2551M



CXD2500



SECTION 3

EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked “★” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

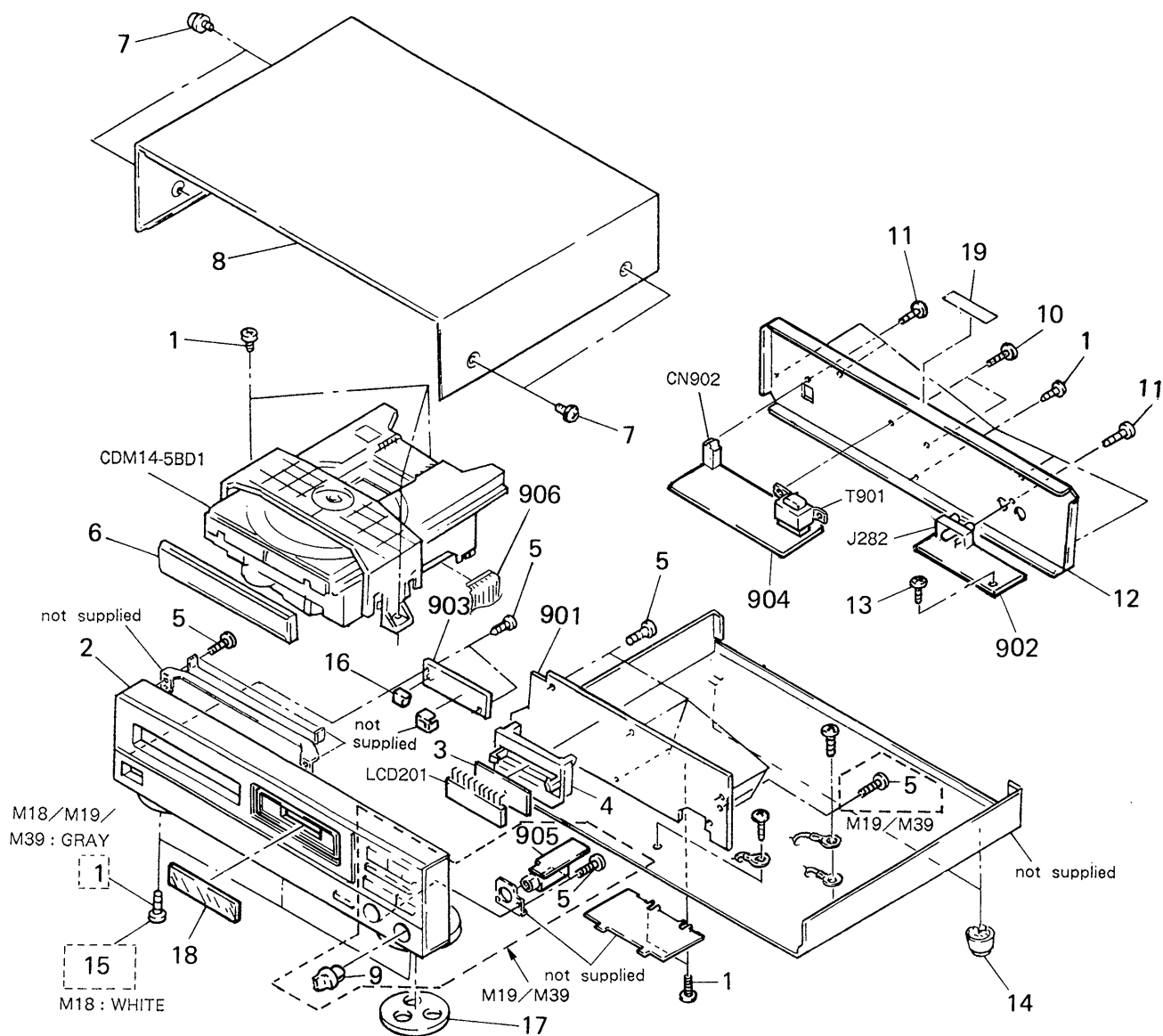
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
Example:
(RED) ... KNOB, BALANCE (WHITE)

↑
Cabinet's Color

↑
Parts Color

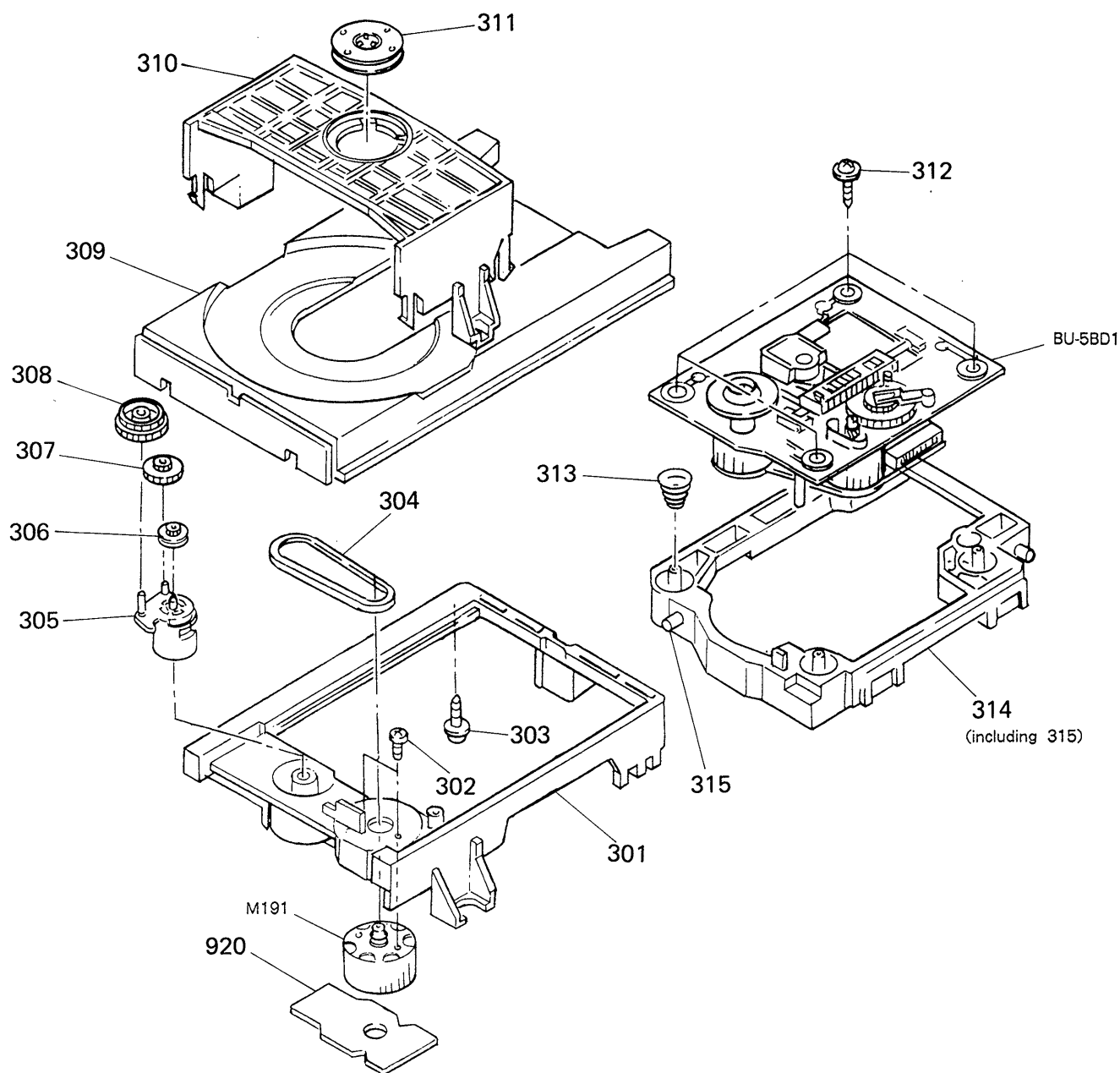
The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

(1) CHASSIS SECTION



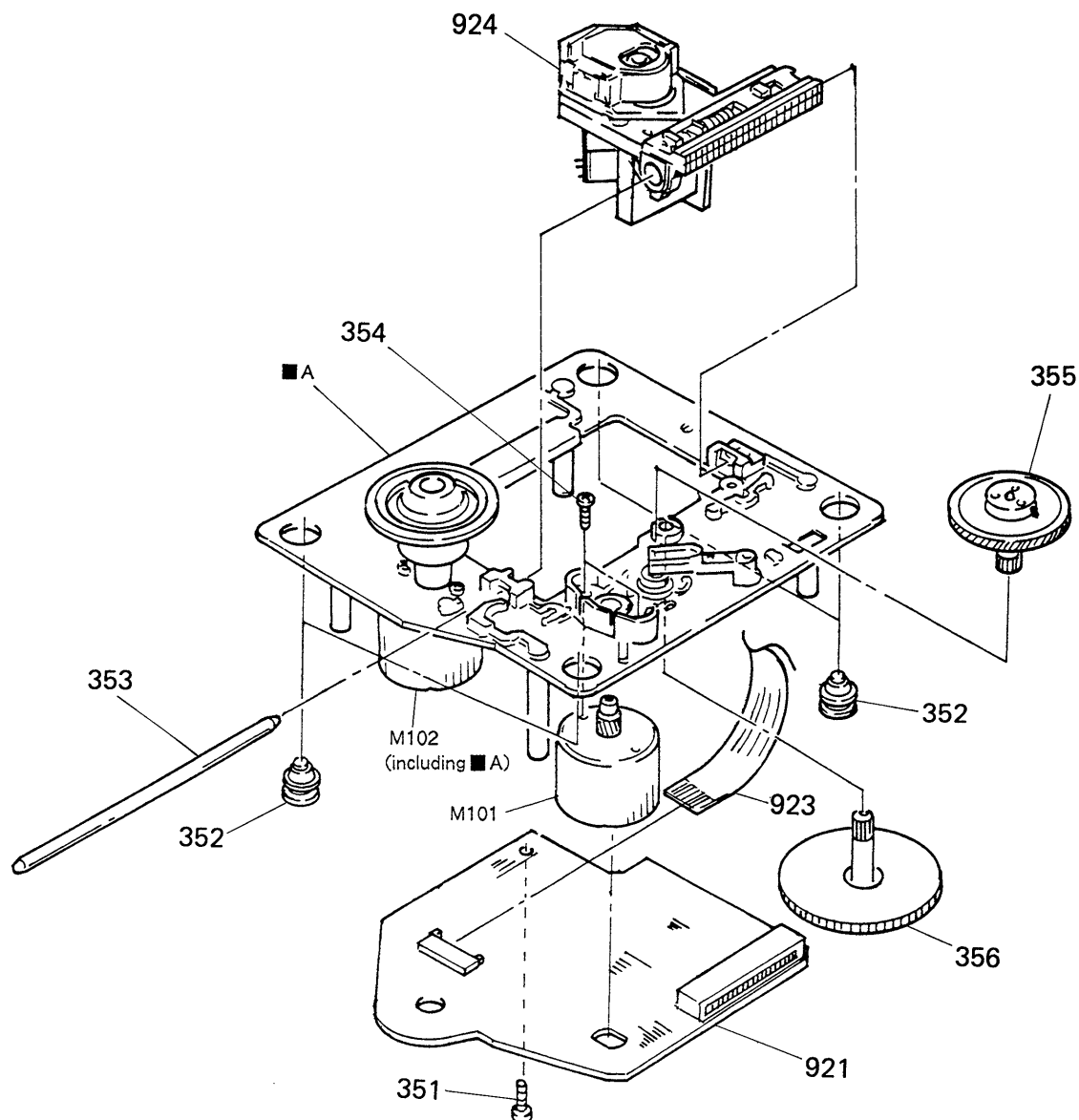
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	7-682-548-09	SCREW +BVTT 3X8 (S)(GRAY)		12	*4-927-326-01	(M39)...PANEL, BACK	
2	X-4917-582-1	(M18)...PANEL ASSY, FRONT (GRAY)			*4-927-327-01	(M19)...PANEL, BACK	
	X-4917-584-1	(M39)...PANEL ASSY, FRONT			*4-927-327-41	(M18)...PANEL, BACK	
	X-4917-585-1	(M19)...PANEL ASSY, FRONT (BLACK)		13	7-682-547-04	SCREW +BVTT 3X6 (S)	
	X-4917-586-1	(M19)...PANEL ASSY, FRONT (GRAY)		14	4-933-601-01	FOOT	
	X-4917-587-1	(M18)...PANEL ASSY, FRONT (WHITE)		15	7-685-872-01	(M18)...SCREW +BVTT 3X8 (S)(WHITE)	
3	*4-933-114-01	ILLUMINATOR		16	4-927-341-01	(M18/M19/M39)...BUTTON (POWER)(GRAY)	
4	*4-933-121-01	HOLDER (LCD)			4-927-341-11	(M18).....BUTTON (POWER)(WHITE)	
5	4-928-635-01	SCREW, +BV (2.6X8) TAPPING		17	*4-921-906-01	FELT	
6	4-927-339-01	(M39)...PANEL, LOADING		18	4-927-351-03	(M18/M19/M39)...PLATE, INDICATION (GRAY)	
	4-927-339-12	(M19)...PANEL, LOADING (BLACK)			4-927-351-11	(M18).....PLATE, INDICATION (WHITE)	
	4-927-339-21	(M18)...PANEL, LOADING (GRAY)		19	4-860-518-00	CUSHION	
	4-927-339-31	(M19)...PANEL, LOADING (GRAY)		901	*A-4617-196-A	(M19/M39)...MOUNTED PCB, MAIN	
	4-927-339-41	(M18)...PANEL, LOADING (WHITE)			*A-4617-394-A	(M18).....MOUNTED PCB, MAIN	
7	3-704-366-01	(M18/M19/M39)...SCREW (CASE)(M3X8)(GRAY)		902	*1-632-176-11	PC BOARD, LINE OUT	
	3-704-366-41	(M18).....SCREW (CASE)(M3X6)(WHITE)		903	*1-634-305-11	PC BOARD, POWER SW	
8	4-919-376-31	(M19/M39)...CASE (BLACK)		904	*1-632-175-11	PC BOARD, POWER	
	4-919-376-71	(M18).....CASE (WHITE)		905	*1-634-306-11	(M19/M39)...PC BOARD, HP	
	4-919-376-81	(M18/M19)...CASE (GRAY)		906	1-535-798-11	JUMPER, FILM (WITH TERMINAL)	
9	4-933-116-11	KNOB (C, TYPE), LOV		CN902	1-526-931-11	INLET, AC	
10	4-820-330-31	SCREW		J281	1-566-921-11	JACK, PIN 2P (LINE OUT)	
11	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S		LCD201	1-808-794-31	DISPLAY PANEL, LIQUID CRYSTAL	

(2) CD MECHANISM SECTION (CDM14-5BD1)



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
301	4-933-111-01	CHASSIS (MD)		310	4-933-110-01	HOLDER (MG)	
302	7-621-775-10	SCREW +B 2.6X4		311	A-4675-347-A	MG ASSY	
303	*4-917-583-21	BRACKET, YOKE		312	4-933-134-01	SCREW (+PTPW M2.6X6)	
304	4-927-649-01	BELT		313	4-917-541-01	SPRING (B)	
305	4-933-109-01	CAM		314	4-933-129-01	HOLDER (BU)	
306	4-927-651-01	PULLEY (S)		315	4-933-108-01	SHAFT (CAM)	
307	4-927-628-01	GEAR (C)		920	*1-632-202-11	PC BOARD, LOADING	
308	4-933-107-01	GEAR (PL)		M191	A-4604-363-A	MOTOR (L) ASSY	
309	4-933-112-01	TABLE, DISK					

(3) OPTICAL PICK-UP BLOCK (BU-5BD1)



Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
351	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S		921	*A-4617-161-A	MOUNTED PCB, BD	
352	4-933-126-01	INSULATOR (A)		923	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
353	4-917-565-01	SHAFT, SLED		924	 8-848-144-11	DEVICE, OPTICAL KSS-240A	
354	7-621-255-15	SCREW +P 2X3		M101	X-4917-504-1	ASSY, MOTOR (SLED)	
355	4-917-567-01	GEAR (M)		M102	X-4917-523-1	ASSY, MOTOR (SPINDLE)	
356	4-917-564-01	GEAR (P), FLATNESS					

SECTION 4

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:MF: μ F, PF: μ PF.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORSIn each case, U: μ , for example:UA...: μ A..., UPA...: μ PA...,UPC...: μ PC, UPD...: μ PD...

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description	
901	*A-4617-196-A	(M19/M39)...MOUNTED PCB, MAIN	
	*A-4617-394-A	(M18).....MOUNTED PCB, MAIN	
902	*1-632-176-11	PC BOARD, LINE OUT	
903	*1-634-305-11	PC BOARD, POWER SW	
904	*1-632-175-11	PC BOARD, POWER	
905	*1-634-306-11	(M19/M39)...PC BOARD, HP	
906	1-535-798-11	JUMPER, FILM (WITH TERMINAL)	
920	*1-632-202-11	PC BOARD, LOADING	
921	*A-4617-161-A	MOUNTED PCB, BD	
923	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
924	Δ 8-848-144-11	DEVICE, OPTICAL KSS-240A	
C101	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C102	1-163-989-11	CERAMIC CHIP 0.033MF	10% 25V
C103	1-126-094-11	ELECT 4.7MF	20% 16V
C104	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C105	1-126-154-11	ELECT 47MF	20% 6.3V
C106	1-126-154-11	ELECT 47MF	20% 6.3V
C107	1-126-154-11	ELECT 47MF	20% 6.3V
C108	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C109	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C110	1-163-989-11	CERAMIC CHIP 0.033MF	10% 25V
C111	1-131-367-00	TANTALUM 22MF	20% 16V
C112	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C113	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C114	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
C115	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
C117	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C118	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C119	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
C120	1-163-989-11	CERAMIC CHIP 0.033MF	10% 25V
C151	1-163-019-00	CERAMIC CHIP 0.0068MF	10% 50V
C152	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C153	1-163-006-11	CERAMIC CHIP 560PF	10% 50V
C154	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
C155	1-163-023-00	CERAMIC CHIP 0.015MF	10% 50V
C171	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C172	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C173	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C174	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C201	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C202	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C203	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C211	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
C212	1-163-011-11	CERAMIC CHIP 0.0015MF	10% 50V

Ref.No.	Part No.	Description	
C213	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C214	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C215	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C216	1-135-091-00	TANTAL. CHIP 1MF	20% 16V
C251	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C252	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C253	1-124-225-00	ELECT 100MF	20% 6.3V
C261	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C262	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
C263	1-124-225-00	ELECT 100MF	20% 6.3V
C264	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
C265	1-124-225-00	ELECT 100MF	20% 6.3V
C266	1-124-225-00	ELECT 100MF	20% 6.3V
C267	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C268	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C271	1-163-038-00	(M19/M39)...CERAMIC CHIP 0.1MF	25V
C272	1-163-038-00	(M19/M39)...CERAMIC CHIP 0.1MF	25V
C273	1-163-035-00	(M19/M39)...CERAMIC CHIP 0.047MF	50V
C274	1-163-035-00	(M19/M39)...CERAMIC CHIP 0.047MF	50V
C275	1-130-468-00	(M19/M39)...MYLAR 560PF	5% 50V
C276	1-130-468-00	(M19/M39)...MYLAR 560PF	5% 50V
C281	1-130-469-00	MYLAR 680PF	5% 50V
C282	1-130-469-00	MYLAR 680PF	5% 50V
C291	1-126-096-11	ELECT 10MF	20% 25V
C292	1-124-225-00	ELECT 100MF	20% 6.3V
C293	1-124-225-00	ELECT 100MF	20% 6.3V
C294	1-126-160-11	ELECT 1MF	20% 50V
C295	1-126-096-11	ELECT 10MF	20% 25V
C296	1-126-096-11	ELECT 10MF	20% 25V
C297	1-124-584-00	ELECT 100MF	20% 10V
C298	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C299	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C901	1-126-939-11	ELECT 10000MF	20% 16V
C902	1-162-851-11	CERAMIC 0.1MF	20% 16V
CN101	1-568-796-11	SOCKET, CONNECTOR 22P	
CN102	1-568-795-11	SOCKET, CONNECTOR 12P	
CN103	*1-564-721-11	PIN, CONNECTOR (SMALL TYPE) 5P	
CN272	*1-564-495-11	(M19/M39)...PIN, CONNECTOR 2P	
CN282	*1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
CN301	*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P	
CN901	*1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
CN902	1-526-931-11	INLET, AC	
D101	8-719-105-72	DIODE RD4.7M-B1	
D201	1-808-805-11	DIODE SEL8864	
D291	8-719-800-76	DIODE 1SS226	

Ref.No.	Part No.	Description
D901	8-719-200-82	DIODE 11ES2
D902	8-719-200-82	DIODE 11ES2
D903	8-719-200-82	DIODE 11ES2
D904	8-719-200-82	DIODE 11ES2
IC101	8-752-037-33	IC CXA1372Q
IC102	8-759-821-94	IC LA6532M
IC103	8-759-633-65	IC M54641L
IC201	8-759-149-91	IC UPD75308GF-545-3B9
IC202	8-749-920-83	IC GP1U52XB
IC211	8-752-333-31	IC CXD2500Q
IC251	8-752-334-07	IC CXD2551M
IC252	8-759-990-13	IC TDA1543A-S1
IC261	8-759-633-66	IC M5285FP
IC271	8-759-981-86	(M19/M39)...IC RC4556MA
IC291	8-759-821-93	IC LA5601
J271	1-568-519-21	(M19/M39)...JACK, LARGE TYPE (PHONES)
J281	1-566-921-11	JACK, PIN 2P (LINE OUT)
L271	1-424-090-11	(M19/M39)...COIL, LINE FILTER
L273	1-424-090-11	(M19/M39)...COIL, LINE FILTER
L291	1-410-658-31	INDUCTOR CHIP 220UH
L292	1-410-658-31	INDUCTOR CHIP 220UH
LCD201	1-808-794-31	DISPLAY PANEL, LIQUID CRYSTAL
M101	X-4917-504-1	ASSY, MOTOR (SLED)
M102	X-4917-523-3	ASSY, BASE (SPINDLE)
M191	A-4604-363-A	MOTOR (L) ASSY
Q101	8-729-901-01	TRANSISTOR DTC144EK
Q251	8-729-141-75	TRANSISTOR 2SD596-DV345
Q271	8-729-141-75	(M19/M39)...TRANSISTOR 2SD596-DV345
Q272	8-729-141-75	(M19/M39)...TRANSISTOR 2SD596-DV345
Q275	8-729-113-66	(M19/M39)...TRANSISTOR FN1L4M-M31
R101	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R102	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R103	1-216-091-00	METAL GLAZE 56K 5% 1/10W
R104	1-216-099-00	METAL GLAZE 120K 5% 1/10W
R105	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W
R106	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R107	1-216-114-00	METAL GLAZE 510K 5% 1/10W
R108	1-216-105-00	METAL GLAZE 220K 5% 1/10W
R109	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R110	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R111	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R112	1-216-083-00	METAL GLAZE 27K 5% 1/10W
R113	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W
R114	1-216-105-00	METAL GLAZE 220K 5% 1/10W
R152	1-216-073-00	METAL GLAZE 10K 5% 1/10W

Ref.No.	Part No.	Description
R153	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R154	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R155	1-216-093-00	METAL GLAZE 68K 5% 1/10W
R156	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R157	1-216-079-00	METAL GLAZE 18K 5% 1/10W
R158	1-216-079-00	METAL GLAZE 18K 5% 1/10W
R159	1-216-079-00	METAL GLAZE 18K 5% 1/10W
R160	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R171	1-216-001-00	METAL GLAZE 10 5% 1/10W
R172	1-216-001-00	METAL GLAZE 10 5% 1/10W
R173	1-216-001-00	METAL GLAZE 10 5% 1/10W
R174	1-216-001-00	METAL GLAZE 10 5% 1/10W
R201	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R202	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R203	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R204	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R205	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R206	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R207	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R208	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R209	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R211	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R212	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R213	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R215	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R216	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R217	1-216-037-00	METAL GLAZE 330 5% 1/10W
R218	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R219	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W
R220	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R241	1-216-018-00	METAL GLAZE 51 5% 1/10W
R242	1-216-018-00	METAL GLAZE 51 5% 1/10W
R243	1-216-018-00	METAL GLAZE 51 5% 1/10W
R244	1-216-018-00	METAL GLAZE 51 5% 1/10W
R245	1-216-018-00	METAL GLAZE 51 5% 1/10W
R251	1-216-041-00	METAL GLAZE 470 5% 1/10W
R252	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W
R253	1-216-045-00	METAL GLAZE 680 5% 1/10W
R254	1-216-037-00	METAL GLAZE 330 5% 1/10W
R255	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R261	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R262	1-216-045-00	METAL GLAZE 680 5% 1/10W
R263	1-216-045-00	METAL GLAZE 680 5% 1/10W
R271	1-216-019-00	(M19/M39)...METAL GLAZE 56 5% 1/10W
R272	1-216-019-00	(M19/M39)...METAL GLAZE 56 5% 1/10W

Ref.No.	Part No.	Description
R273	1-216-053-00	(M19/M39)...METAL GLAZE 1.5K 5% 1/10W
R274	1-216-053-00	(M19/M39)...METAL GLAZE 1.5K 5% 1/10W
R275	1-216-097-00	(M19/M39)...METAL GLAZE 100K 5% 1/10W
R281	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R282	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R291	1-216-298-00	METAL GLAZE 2.2 5% 1/10W
R293	1-216-025-00	METAL GLAZE 100 5% 1/10W
RV101	1-238-016-11	RES, ADJ, CARBON 10K (TRACKING GAIN)
RV102	1-238-016-11	RES, ADJ, CARBON 10K (FOCUS GAIN)
RV271	1-238-748-11	(M19/M39)...RES, VAR, CARBON 1K/1K (LEVEL)
S101	1-572-085-11	SWITCH, LEAF (LIMIT SW)
S191	1-572-086-11	SWITCH, LEAF (OUT SW)
S192	1-572-086-11	SWITCH, LEAF (IN SW)
S201	1-554-303-21	SWITCH, KEY BOARD (MUSIC SCAN)
S202	1-554-303-21	SWITCH, KEY BOARD (TIMES)
S203	1-554-303-21	SWITCH, KEY BOARD (OPEN/CLOSE)
S204	1-554-303-21	SWITCH, KEY BOARD (■)
S205	1-554-303-21	SWITCH, KEY BOARD (▷/□□)
S206	1-554-303-21	SWITCH, KEY BOARD (◁◁/◁◁)
S207	1-554-303-21	SWITCH, KEY BOARD (▷▷/▷▷)
S208	1-554-303-21	SWITCH, KEY BOARD (PGM)
S209	1-554-303-21	SWITCH, KEY BOARD (SHUFFLE)
S210	1-554-303-21	SWITCH, KEY BOARD (REPEAT)
S211	1-554-303-21	SWITCH, KEY BOARD (FADER)
S291	1-571-305-11	SWITCH, PUSH (1 KEY)(POWER)
T901	△ 1-449-825-11	TRANSFORMER, POWER
X201	1-567-775-11	VIBRATOR, CERAMIC
X251	1-567-908-11	VIBRATOR, CRYSTAL

ACCESSORY & PACKING MATERIAL

1-465-282-11	(M39)...REMOTE COMMANDER
4-384-285-01	(M39)...COVER, BATTERY
△ 1-558-835-11	CORD, POWER
1-559-533-11	CORD, CONNECTION
3-750-716-11	(M19/M39)...MANUAL, INSTRUCTION
3-750-716-41	(M19/M39)...MANUAL, INSTRUCTION
*3-795-629-11	INSTRUCTION
*4-922-998-01	CUSHION
*4-927-393-01	(M39)...INDIVIDUAL CARTON
*4-927-393-11	(M19)...INDIVIDUAL CARTON
*4-927-393-21	(M18)...INDIVIDUAL CARTON

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

9-955-636-12
（ Including 9-955-526-11
9-955-636-91
With 9-955-636-81 ）

Sony Corporation
Audio Group

English
92F0515-1 (2)
Printed in Japan
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SS-A102

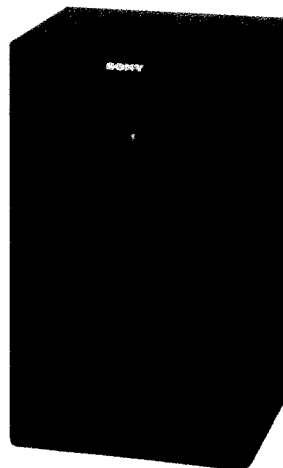
SERVICE MANUAL

SPECIFICATIONS

Speaker system	2-way speaker system
Speaker units	Woofer: 16 cm, cone type Tweeter: 6 cm, cone type
Enclosure type	Acoustic suspension
Nominal impedance	6 ohms
Power handling capacity	Music 60 W
Sensitivity	88 dB (1 W, 1 m), 6.3 W (96 dB, 1 m)
Frequency range	55 Hz to 20,000 Hz
Dimensions	Approx. 230 x 381 x 193 mm (w/h/d)
Weight	Approx. 3.4 kg per speaker, net Approx. 7.5 kg in shipping carton

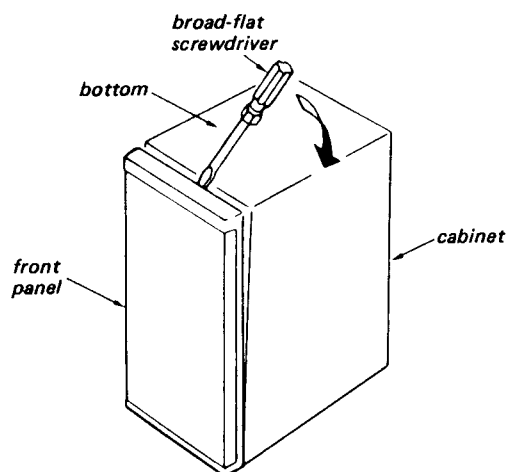
Design and specifications subject to change without notice.

AEP Model
UK Model



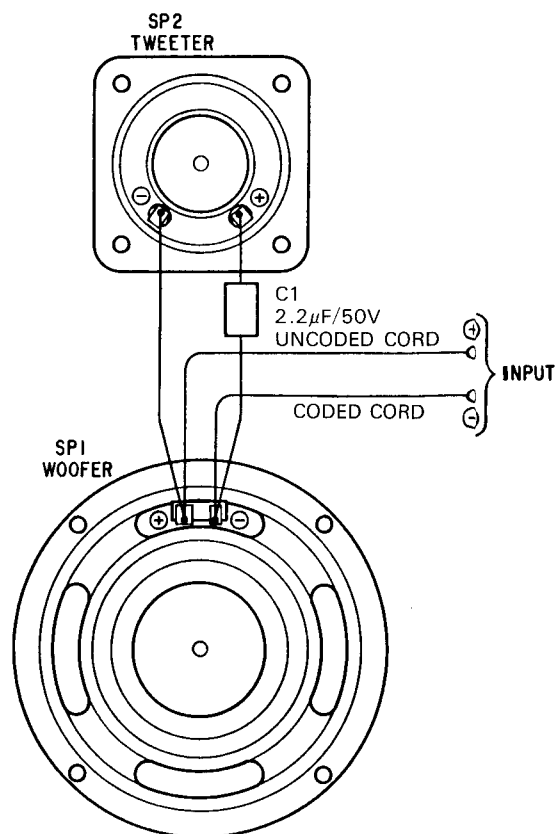
This set is the speaker system in LBT-V102 and XO-D102.

1. FRONT PANEL REMOVAL



Note: Be careful not to scratch the cabinet.

2. WIRING DIAGRAM



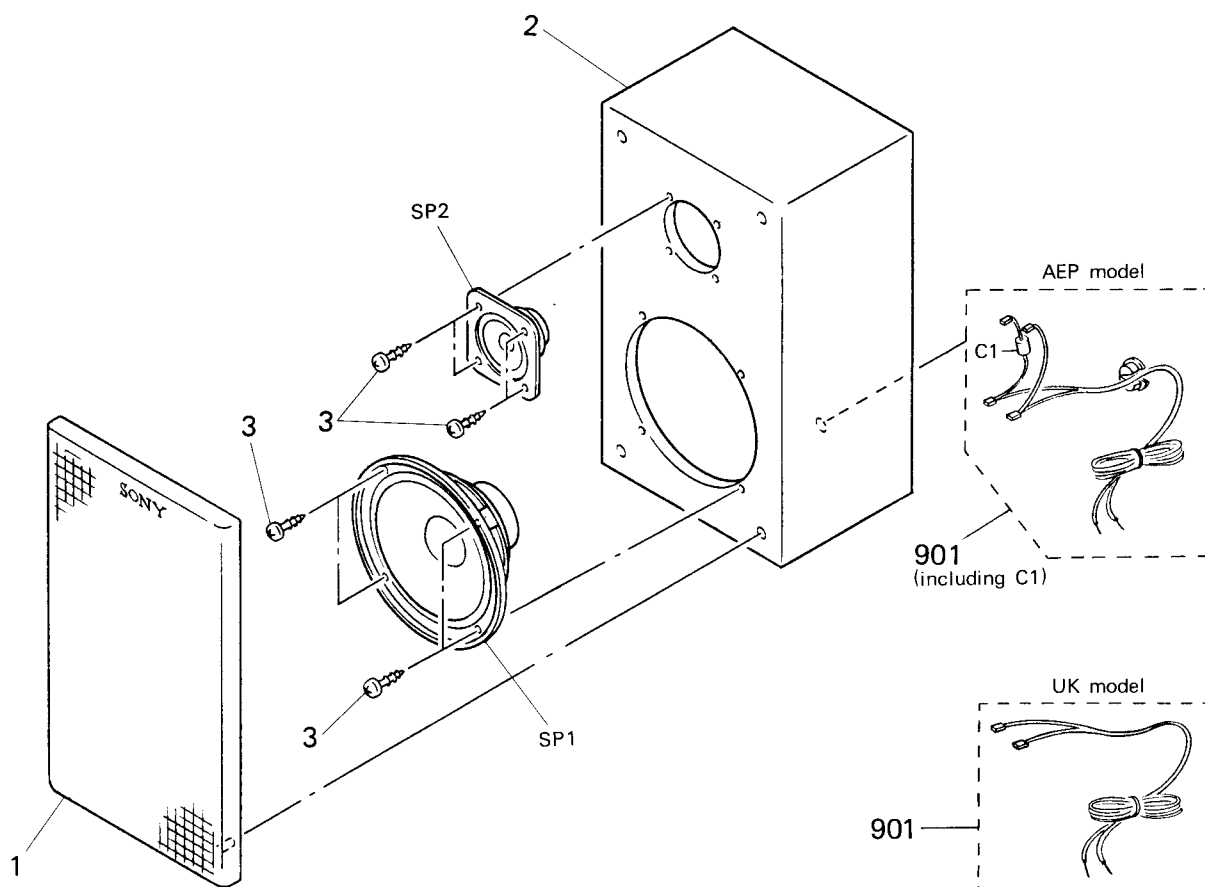
SPEAKER SYSTEM
SONY®



3. EXPLODED VIEW AND PARTS LIST

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.



No.	Part No.	Description
1	T-8150-363-A (AEP)... T-8150-368-A (UK)....	PANEL ASSY, FRONT PANEL ASSY, FRONT
2	T-8151-198-1 (AEP)... T-8151-199-1 (UK)....	SPEAKER BOX SPEAKER BOX
3	T-8150-573-1	TAPPING SCREW +P 4X15

ELECTRICAL PARTS

Ref.No.	Part No.	Description
901	T-8150-369-A (AEP)... T-8110-453-1 (UK)....	KIT ASSY, WIRE CORD, SPEAKER
C 1	T-8110-253-1	CAP 2.2MF 50V
SP1	T-8110-420-1	WOOFER
SP2	1-544-046-11	TWEETER

ACCESSORY & PACKING MATERIAL

T-8151-207-1 (AEP)...	MANUAL, INSTRUCTION
T-8151-189-1 (UK)....	MANUAL, INSTRUCTION